ESS3016X- Internet Intelligent Storage User’s Manual

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Welcome

Thank you for using our internet intelligent storage system!
This operating manual is designed to be a reference tool for the installation and operation of your system.
Before installation and operation please read the following safeguards and warnings carefully!

Important Safeguard and Warnings

1．Electrical Safety

All installation and operation should conform to your local electrical safety codes.
We assume no liability or responsibility for all the fires or electrical shock caused by improper handling or installation

2．Installation

Keep upward. Handle with care.
Do not apply power to the unit before completing installation.

3．Qualified Engineers Needed

All installation here should be done by the qualified engineers.
All the examination and repair should be done by the qualified service engineers.
We are not liable for any problems caused by unauthorized modifications or attempted repair.

4．Environment

The server shall be installed in a cool, dry place away from direct sunlight, inflammable, explosive substances and etc.

5. About Accessories

Be sure to use all the accessories recommended by manufacturer.
Contact you local retailer ASAP if something is missing or damaged in your package.

1 Features and Functions

The 3016X internet intelligent storage unit has installed all necessary software. It works in 1000M network environment (recommended) or 10/100mbps Ethernet. You can use web browser (IE 6.0 recommended) to manage, set network parameter and create storage pool.

1.1 Specifications

1.1.1 ESS3016X Specifications

Specification	ESS3016X
Network Port	Dual 10/100/1000Mbps Ethernet ports
Storage Media	16 SATA Ⅱ HDDs
HDD Installation	Independent HDD bracket Support HDD hot swap
Data Protection	Support RAID0/ RAID1/ RAID5
Server	Microsoft Windows 2000/XP/NT/Server2003 Linux/Unix
Fan	Redundant dual ball bearing fan MTBF>100 thousand hours
Redundant Configuration	Support 2+1 hot swap power
Power Consumption	100V~240VAC；50Hz~60Hz；
Whole Unit Power Consumption （16 SATA HDDs）	280W~350W
Dimension (H*W*D)	133*450*650(mm)
Working Temperature	5℃～40℃
Working Humidity	10%～80%（Non condensation）
Storage Environment Temperature	-20℃～70℃
Storage Environment Humidity	5%～90%（Non condensation）
Extension Function	Max support 2 ESS3015A，total 46 HDDS
Altitude	-60m～3000m
Unit Weight (Exclude HDD)	33Kg
Certificate and Security	China Compulsory Certificate
Unit Fan	Support on-line update

1.1.2 ESS3015A Specifications

Specification	ESS3015A
Dimension	440*133*650(mm)
Working temperature	5℃～40℃
Working humidity	10%～80%（Non condensation）
Storage environment temperature	-20℃～70℃
Storage environment humidity	5%～90%（Non condensation）
Altitude	-60m～3000m
AC input	100V~240V ±10% 60Hz/50Hz
Net power consumption	About 76W
Whole unit power consumption （15 SATA HDDs）	Below 240W

Power	300W 1+1 redundancy Support on-line replacement
Quality	29Kg
Certificate	China Compulsory Certificate
External interface	RS232 serial port. Three network interfaces Normal Open/Normal Close relay output
Network	N/A
Fan	Support on-line upgrade
HDD	Support Max 15 HDDs Support hot swap.

1.2 Installation

1.2.1 Preparation

Before installation please prepare the following items:

- SATA HDD
- Tools for HDD installation
- Network cable

1.2.2 Set Device

If you want to configure setup, please follow the steps listed below.

- HDD installation. Please refer to chapter 1.2.3
- Connect power cable and network cable. Please refer to chapter 1.2.4.
- Boot up device and check self-diagnosis is OK or not. Please refer to chapter 1.2.5.

1.2.3 HDD Installation

You can use the HDD bracket in the chassis to install HDD.

First, pull out HDD bracket from the front panel.

Second, remove the bar that fixes the HDD bracket.

Third, use four screws to fix one HDD in the HDD bracket firmly.

The unit is shown as in Figure 1-1.

In the following figure, you can view HDD serial number. The value ranges from left to the right. You can see the 13th to 16th at the bottom of the unit.

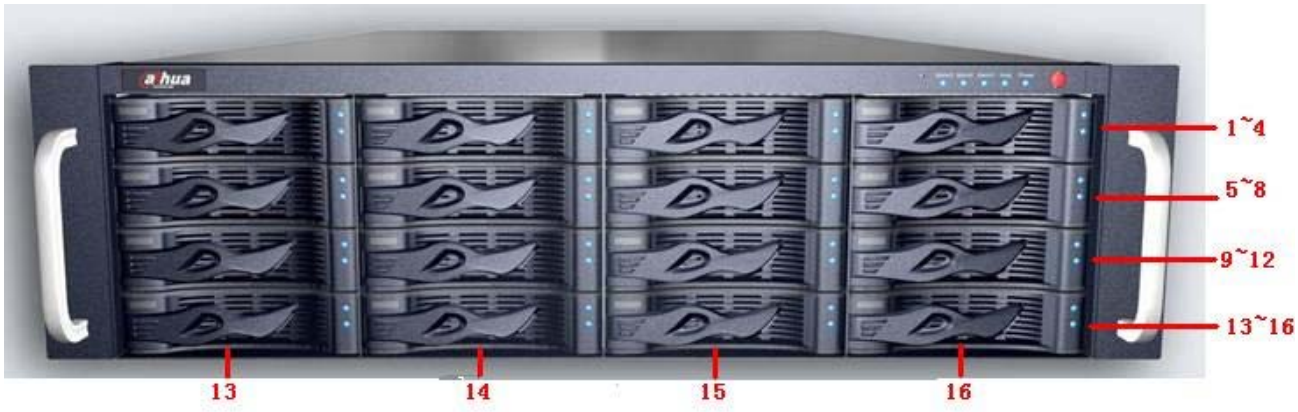


Figure 1-1

1.2.4 Cable Layout

1.2.4.1 ESS3016X

In Figure 1-2, you can see ESS3016X rear panel.

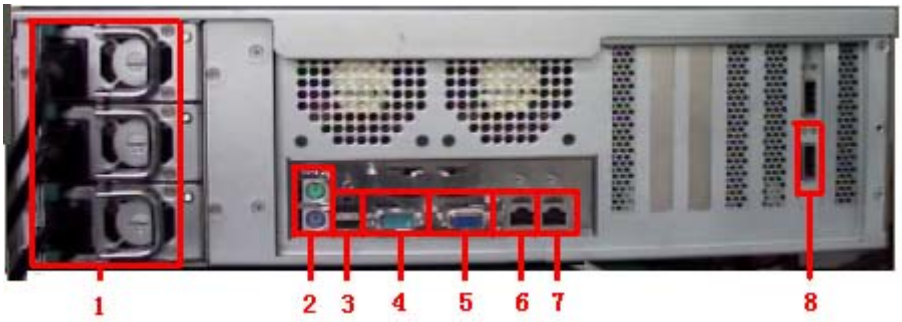


Figure 1-2

You can refer to the following sheet for detailed information.

SN	Port	Function
1	Power Port	Connect to 220V AC
2	Mouse/keyboard port	Connect to mouse or keyboard to view device status.
3	USB port	Connect to USB device.
4	COM	Connect to RS232 COM to go to the command interface.
5	CRT Port	Connect to displayer.
6	Ethernet port	It is used to transmit data. 1000M Ethernet port.
7	Ethernet port	It is used to transmit data. 1000M Ethernet port.
8	Extension Connection Port	Connect to the extension disk rack.

1.2.4.2 ESS3015A

The ESS3015A rear panel is shown as below. See Figure 1-3.

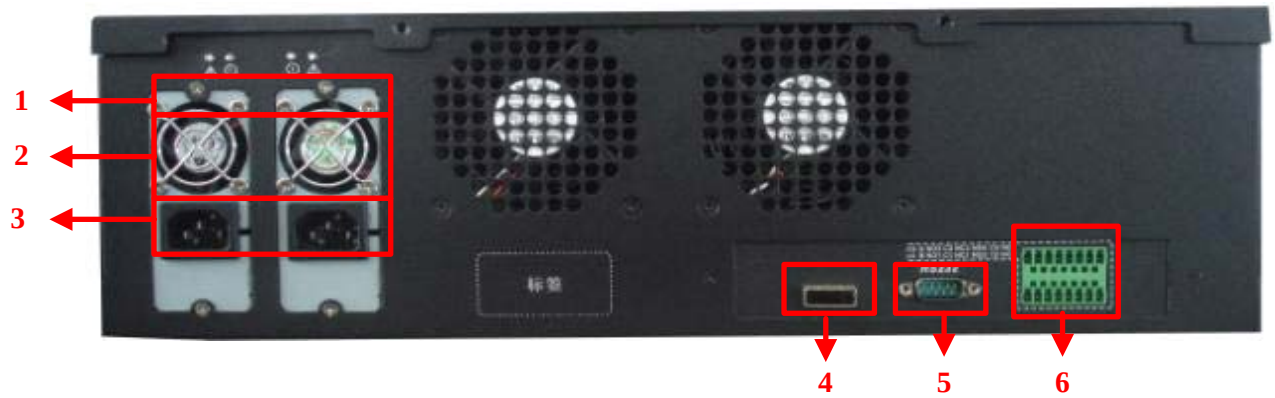


Figure 1-3

You can refer to the following sheet for detailed information.

SN	Port	Function
1	Power indication light	It is to display power working status. It becomes red when alarm occurs. It becomes green when system is working normally.
2	Power fan	It is to help ventilation.
3	Power socket	Connect to 100--240V AC.
4	Data channel connected to the host	Connect it to the host.
5	COM	Output alarm information.
6	Alarm relay output NO: normal open NC: normal close C: public port	NO1 C1 NC1：HDD power channel alarm output
		NO2 C2 NC2：Fan alarm output
		NO3 C3 NC3：Redundancy power alarm output
		NO4 C4 NC4: System alarm output(Including the above three alarms)
		AB RS485 alarm output. G: ground end.

Note

Use special 1000M cable if your environment is 1000M.

1.2.5 Boot up and Shut down

1.2.5.1 ESS3016X

Please follow the steps listed below to boot up the device. See Figure 1-4.

- Connect the power cable to the system.
- Click the device power button to boot up the system. You can see power indication light becomes yellow and all channel read-write indication lights flashed once. Now the boot up completed.

If it is your first time to boot up system, you need to set network operation system manually.

Figure 1-4

SN	Name	Function
1	Power Alarm	If there is error in one of the three alarm sockets, the light becomes red.
2	Fan	If there is alarm from the system fan, the light becomes red.
3	Temperature	If there is alarm from the system temperature, the light becomes red.

4	NETb	It is network data channel b indication light. The yellow light flashes if the network port is working properly
5	NETa	It is network data channel a indication light. The yellow light flashes if the network port is working properly
6	System HDD Indication Light	The blue light flashes when current channel is reading or writing data.
7	Power Indication Light	It becomes yellow after you connect device to the power.
8	RESET	Click this button to reboot system.
9	System Button	After connected the device to the power, click it to boot up the device.
10	HDD Power Indication Light	The yellow light flashes when connect the HDD channel to the power.
11	HDD Read-write Indication Light	The blue light flashes when the system is reading or writing the HDD.

If you want to turn off unit power, please follow the following steps:

- In web interface, select option to shut down the system.
- Please wait until the blue HDD read-write light becomes off.
- Click PWR button to shut down the system.

1.2.5.2 ESS3015A

Please refer to Figure 1-5 for ESS3015A rear panel information.

Figure 1-5

SN	Name	Function
1	On/off button	After connecting to power, you can click this button to boot up the system.
2	PWR LED	Here is to display system has connected to power or not.
3	Host LED	The connection to the host is proper or not. The light is orange if the connection is normal.
4	Alarm1 LED	It becomes red when HDD power alarm occurs.
5	Alarm2	It becomes red when system fan alarm occurs.

	LED	
6	Alarm3 LED	It becomes red when system power alarm occurs.
7	RESET	Click this button to reboot system.
8	Channel read-write LED	The light flashes when current channel is reading or writing data.
9	Channel power LED	The light turns on when you connect current channel to power.

Here we just introduce the situation when you connect ESS3015A to ESS3016X.
Please follow the steps listed below to boot up the system.

- Connect the device to the power.
- Connect the data cable to the unit.
- Boot up the unit(skip this step if unit has boot up)
- Click unit power button to boot up ESS3015A.You can see HDD channel read-write light becomes red and then begin scanning.
- Please wait until the scan completed.

If you want to turn off unit power, please follow the steps listed below:

- Shut down the unit first.
- Click the PWR button of the ESS3015A to shut down the device.

Warning!
Do not shut down the ESS3015A directly or unplug the data cable when host is running, it may result in RAID setup and data loss! You need to reboot the host to restore RAID and data.

2 System Operation

2.1 Preparation Work

- 10/100Mbps or 1000Mbps Ethernet hub or switcher.
- Controller of the following configuration: Windows 2000/XP, IE 6.0 Ethernet connection.
- Check the real panel cable layout is O.K or not. (Power cable, network card and etc)

2.2 Network Setup

internet intelligent default network setup is shown as below:

- IP: 192.168.0.111
- Gateway: 192.168.0.1
- Subnet mask: 255.255.0.0

Admin password:888888888888

To configure 3016X internet intelligent storage device, you need to set controller IP first.

2.2.1 Set Controller IP Address

Right click My Network Places, select property. And then right click local connection and then click property, double click internet protocol (TCP/IP).

In Internet protocol interface (see Figure 2-1), you can modify IP setup and then click O.K button. Please note controller IP and device IP shall be in the same network section.

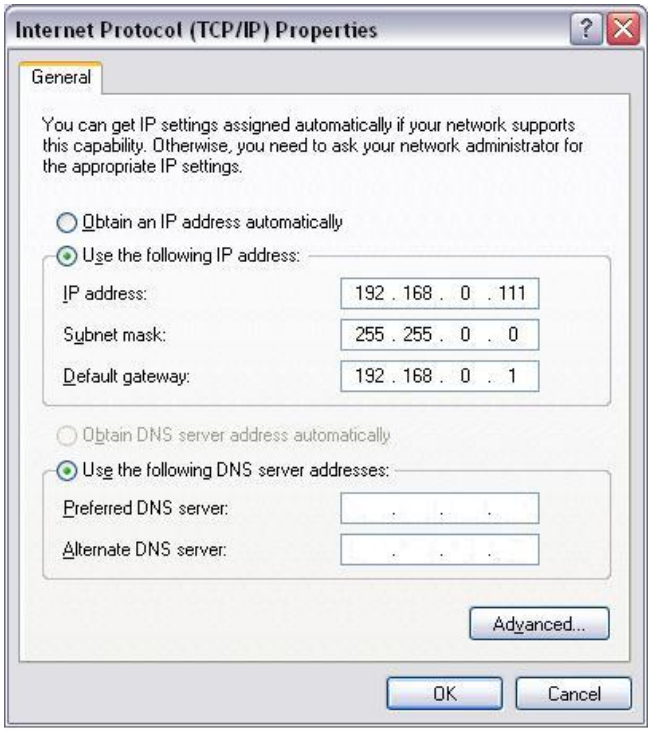

Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 168 . 0 . 111
Subnet mask:
255 . 255 . 0 . 0
Default gateway:
192 . 168 . 0 . 1
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

Figure 2-1

2.2.2 Network Connection Test

In DOS environment, input the command: ping 192.168.0.111. So as to check your network.

2.2.3 Set IP Address

Please follow the steps below to set device IP address.

2.2.3.1 Input IP address

Open IE browser, input http://192.168.0.111(default IP address) you can see the login interface. See Figure 2-2.

Figure 2-2

2.2.3.2 Log in

System user name is admin and password is 888888888888.

Admin is the system administrator account and has the highest priority.

For security reasons, please modify your password after first login (At least 12-digit).

2.2.3.3 Go to edit interface

In the main interface, from network to network and then click edit button. See Figure 2-3.

Figure 2-3

2.2.3.4 Input setup

The edit interface is shown as in Figure 2-4 .Here you can input your new IP address information. Please input your IP address and gateway and then click save button.

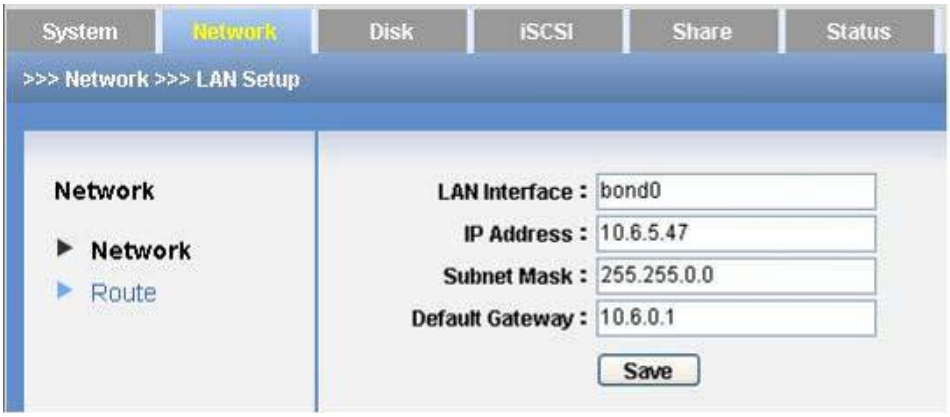


Figure 2-4

2.3 Boot up Device

Open IE browser, and input http://10.6.5.47 in the address column (10.6.5.47 is a new IP address you modified after you first logged in.). Input your user name and password, you can log in. After you logged in, you can see an interface consisting of six parts.

- System
- Network
- Disk
- ISCSI
- Share
- Status

3 ESS3016X Web Configuration

ESS3016X internet intelligent storage software operation consists of seven parts.

- Web login
- System management
- Network management
- Disk management
- iSCSI management
- Share management
- Status management

3.1 Web Login

In windows OS, open IE browser and then input system IP address. Click Enter, you can see the following interface. See Figure 3-1.

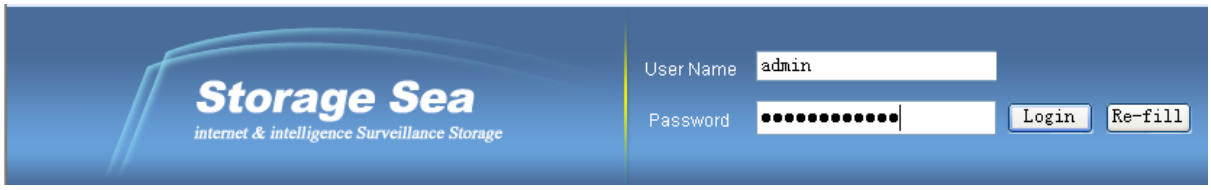


Figure 3-1

Our recommended controller configuration is: Windows 2000/XP, IE 6.0 or higher.

3.2 System Management

In this interface, you can see the following six parts.

- Display system information
- Parameter configuration
- User management
- Guide
- Upgrade
- Shut down

3.2.1 Display System Information

After you logged in, you can see system information interface. Or you can click system and then select system information item to go to current interface. See Figure 3-2.

The red font means current item has not been enabled.

Here you can see the following information:

- Host name
- System time
- Start time
- Device type
- Software version
- Hardware version
- Power status

- CPU temperature
- Fan speed
  - ✧ ESS3016X display three fans speed. One is CPU fan speed.
- SAMBA status
- NFS status
- FTP status
- iSCSI status.
- CMS status

Note

If it is your first time to go to the system, please set system time.

When chassis is above threshold 55℃ or fan speed is below 1500r/m, system may display in red font to remind you.

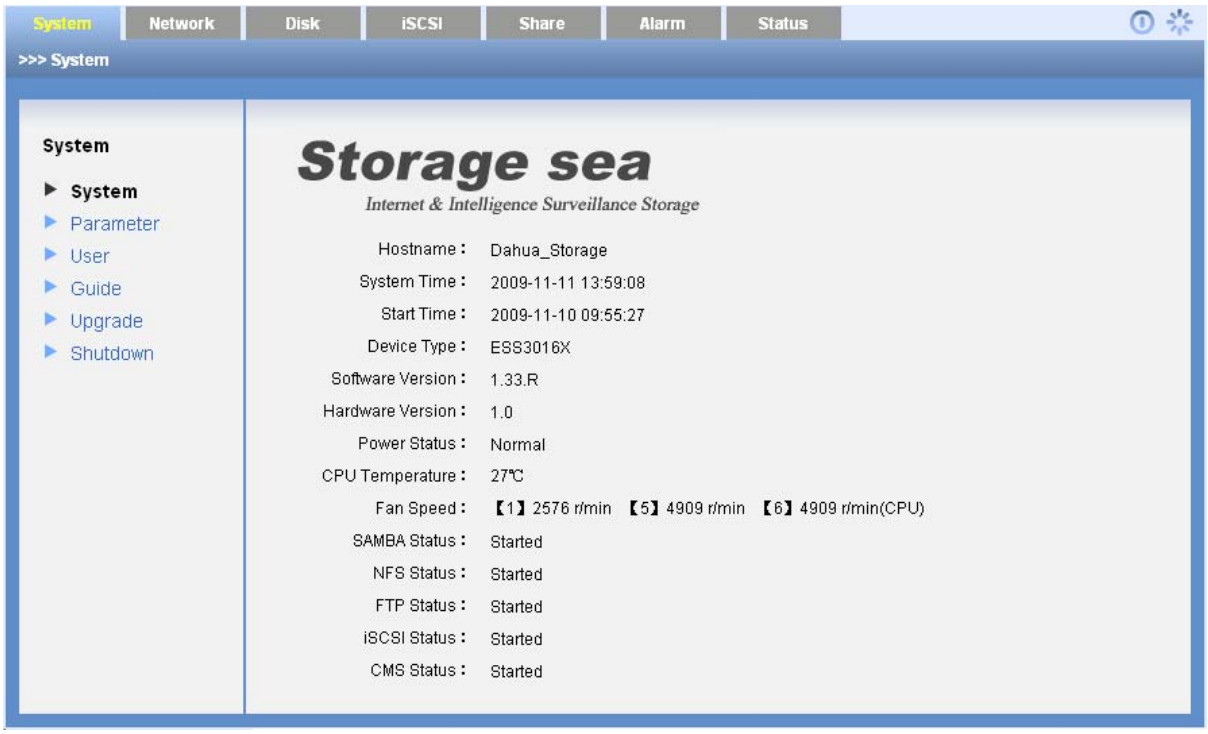


Figure 3-2

3.2.2 Parameter Configuration

Click parameter configuration button, you can see the following interface. See Figure 3-3.

- Host name
- Date
- Time
- Time Synchronize

Please note the server IP and the device IP shall be in the same section.

Click update now you can see the system synchronize time with the server. You can see the proper dialogue box if there is an error.

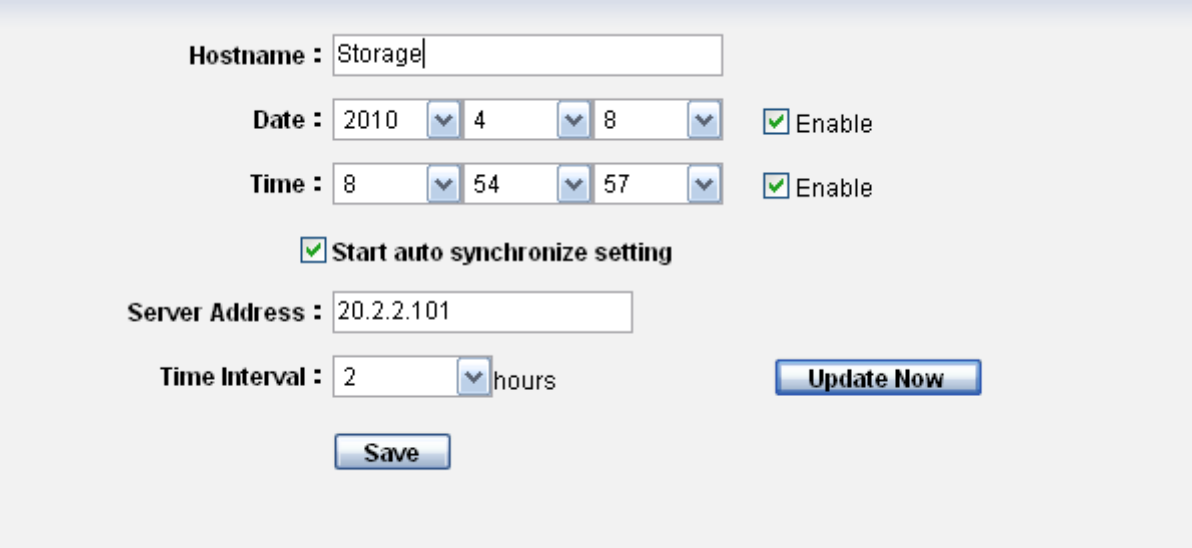


Figure 3-3

3.2.3 User Configuration

Click user configuration button, you can see the following interface. See Figure 3-4.

For one user, there are two conditions:

- Administrator: it is the admin. This user can read, write or delete all storage data in current system. It can configure the whole system and set ordinary user share folder rights.
- Ordinary user, it refers to all users except admin. Ordinary user (such as guest) can modify its own password, review and save itself operation log, read and write in the corresponding folder.

Please note, in ordinary user, "ftpuser" has two IDs. It is the ordinary system just like the guest and it is also the default FTP service user.

Default password.

- admin: 888888888888
- guest: 666666666666
- ftpuser: 111111111111

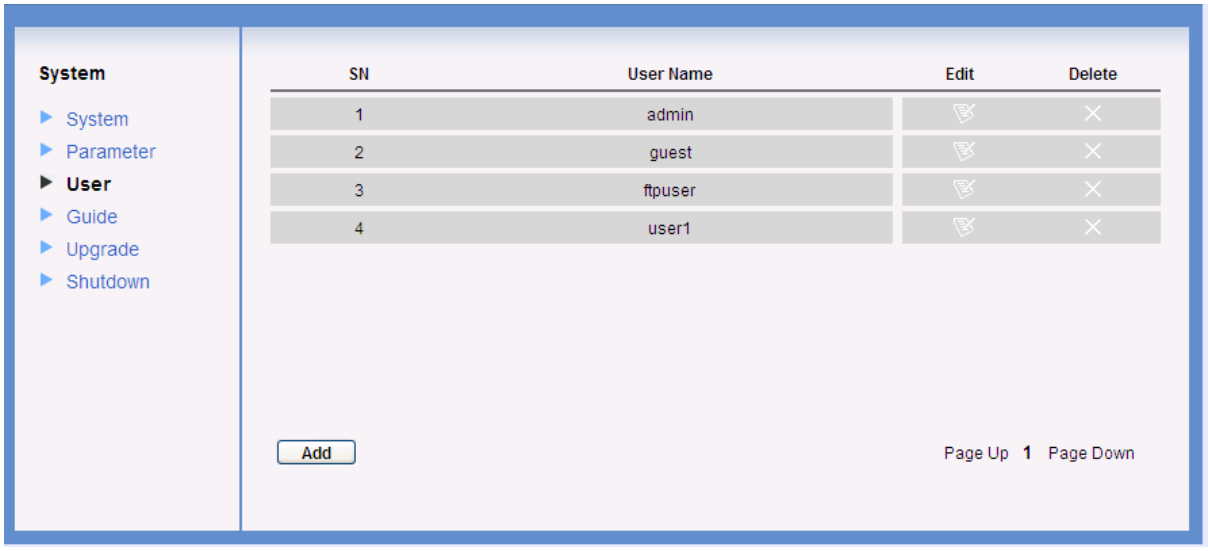


Figure 3-4

3.2.3.1 Add User

In Figure 3-4, click add button, you can see the following interface. See Figure 3-5.
After input new user information, please click save button. System goes back to user management interface.
Please note there are two types of users: iSCSI user and SAMBA/NFS/FTP user. For iSCSI user, the password length shall be more than 12-digit. For SAMBA/NFS/FTP user, there is no such a kind of requirement. The iSCSI user can use the SAMBA/NFS/FTP service, and the SAMBA/NFS/FTP user can use the iSCSI service only if its password is more than (or equal to) 12-digit.

Important

The user name consists of the character and number. The iSCSI user password shall be more than 12-digit.

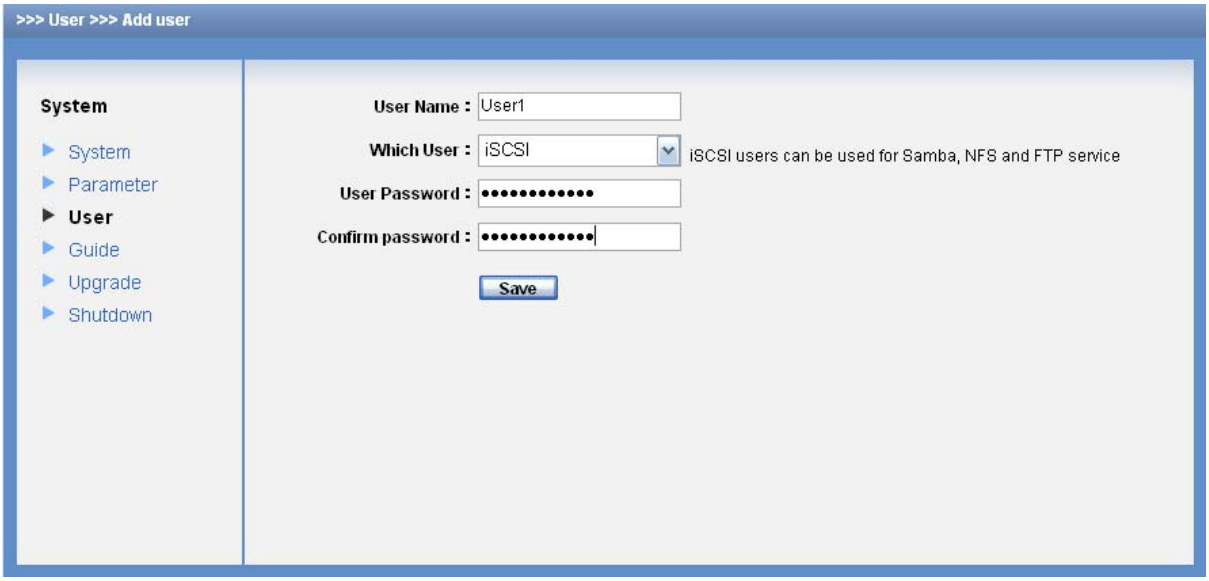


Figure 3-5

3.2.3.2 Edit User password

Click edit button of corresponding user, you can see the following interface. See Figure 3-6.
For the administrator, you do not need to input old password. You just input new password and confirm, you can modify a user's password.

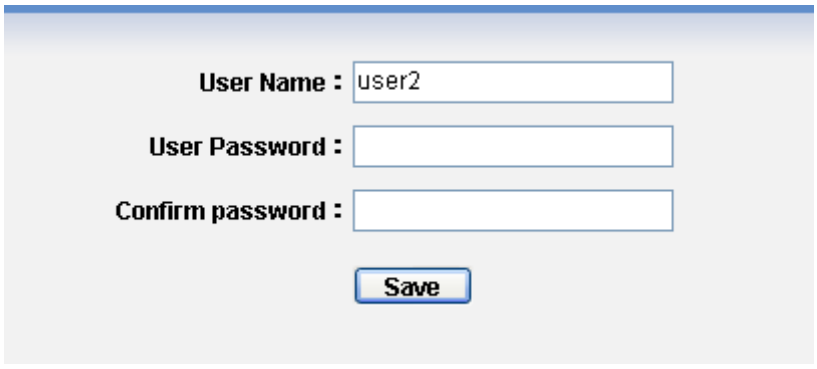


Figure 3-6

3.2.3.3 Delete User

Select the delete button after the corresponding user, system pops up a dialogue box to remind you that you are going to delete a user. Click O.K button, all the information of current user will be deleted completely.

3.2.4 Guide

From system to guide, you can go to Guide interface. Guide function is to help you get familiar with this device as soon as possible. You can follow the tip in each interface and then modify as you need. You can just click next button to go on.

In the following procedures, we are going to create a SAMBA share in Raid5 mode.

- In web control interface, from system to guide, you can see an interface is shown as in Figure 3-7.

Note

Please make sure there are 16 HDDs in current system and each HDD is free. Otherwise system may pop up error prompt information.

Click the initialize button, system will automatically delete all storage pool and Raid5 device. If there are some share folders in some storage pool, you need to delete them manually first. Otherwise system may pop up error prompt information.

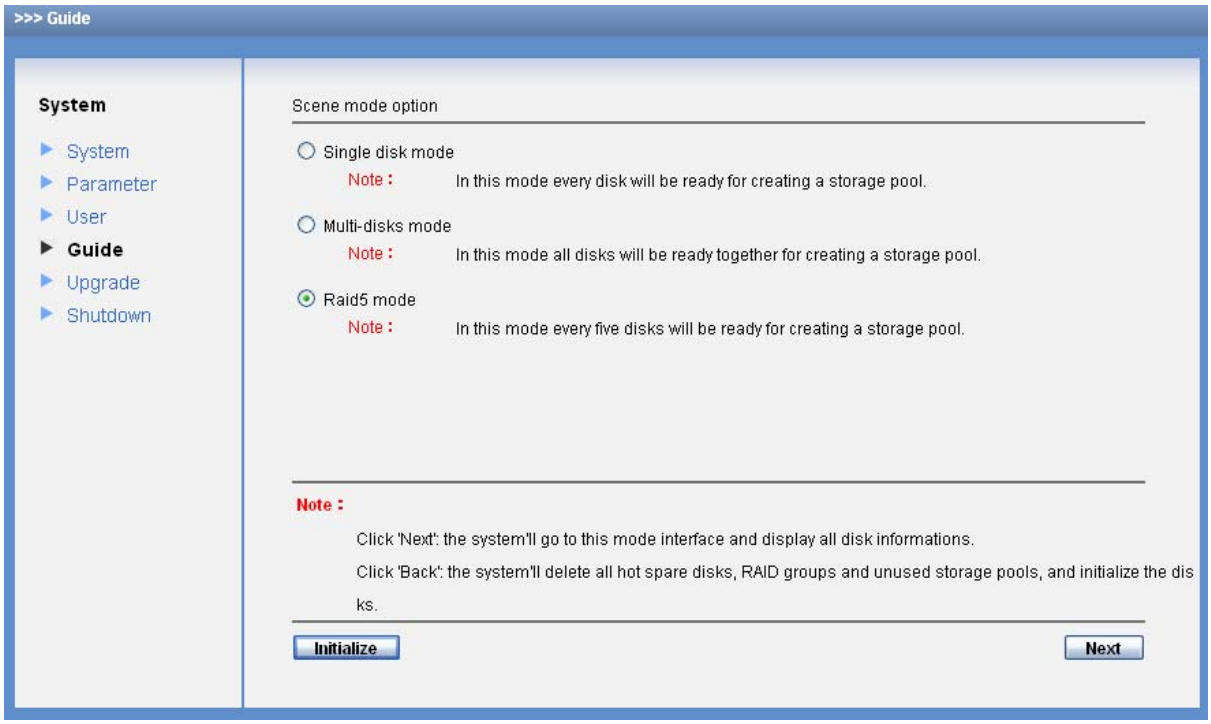

>>> Guide
System
System
Parameter
User
Guide
Upgrade
Shutdown
Scene mode option
Single disk mode
Note : In this mode every disk will be ready for creating a storage pool.
Multi-disks mode
Note : In this mode all disks will be ready together for creating a storage pool.
Raid5 mode
Note : In this mode every five disks will be ready for creating a storage pool.
Note :
Click 'Next': the system'll go to this mode interface and display all disk informations.
Click 'Back': the system'll delete all hot spare disks, RAID groups and unused storage pools, and initialize the dis
ks.
Initialize
Next

Figure 3-7

- In Figure 3-7 , enable Raid5 mode and then click next button. You can see an interface is shown as in Figure 3-8.

Note

You can click back button to return to previous interface.

System can memorize administer operation. The next time when you log in as admin, from guide to Raid5 mode, system automatically goes to next page. In that page, click next button. System

pops up a warning dialogue box to warn you .Please click Yes button to continue. Now you can see an interface is shown as in Figure 3-8.

In Figure 3-8, you can see there are three Raid5 groups and each of them consists of five disks. You can see there is storage pool in each group also.

You can click back button to return to previous interface. Click cancel button, system automatically removes all storage pool and Raid5 device you just created and then goes back to guide main interface (See Figure 3-7).

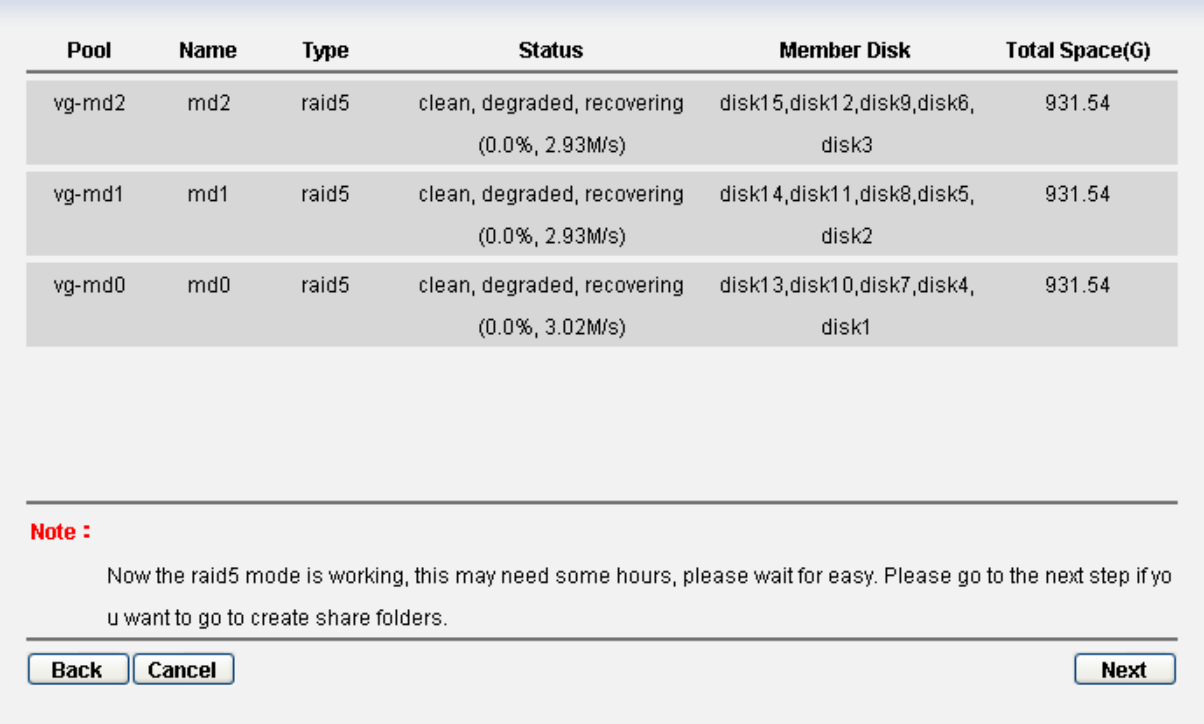


Figure 3-8

- In Figure 3-8, click next button. System pops up a warning dialogue box to warn you .Please click Yes button to continue. Now you can see an interface is shown as in Figure 3-9 .Please select NAS service and SAMBA item.

In this interface, you can enable iSCSI or NAS share. For NAS share, you can select more than one item. Since we are going to create Raid5 mode, here we enable SAMBA service.

You can click back button to return to previous interface. Click cancel button, system automatically removes all storage pool and Raid5 device you just created and then goes back to guide main interface (See Figure 3-7).

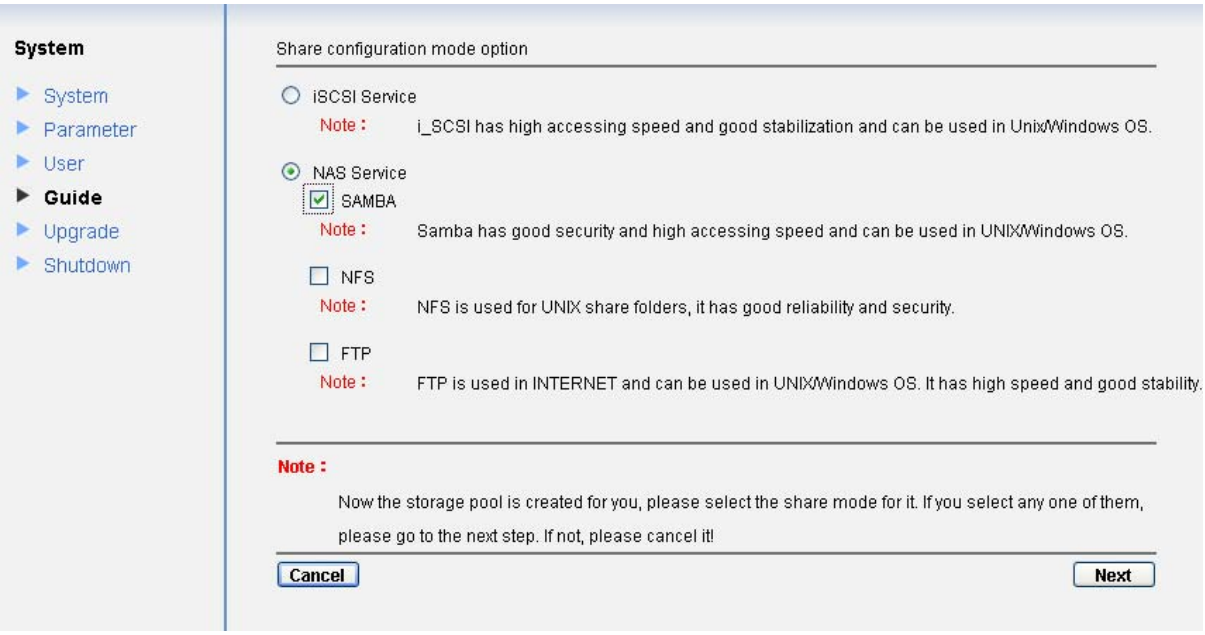

System
System
Parameter
User
Guide
Upgrade
Shutdown
Share configuration mode option
iSCSI Service
Note :
i_SCSI has high accessing speed and good stabilization and can be used in Unix/Windows OS.
NAS Service
SAMBA
Note :
Samba has good security and high accessing speed and can be used in UNIX/Windows OS.
NFS
Note :
NFS is used for UNIX share folders, it has good reliability and security.
FTP
Note :
FTP is used in INTERNET and can be used in UNIX/Windows OS. It has high speed and good stability.
Note :
Now the storage pool is created for you, please select the share mode for it. If you select any one of them, please go to the next step. If not, please cancel it!
Cancel
Next

Figure 3-9

- In Figure 3-9, click next button. System pops up a warning dialogue box to warn you .Please click Yes button to continue. Now you can see an interface is shown as in Figure 3-10.

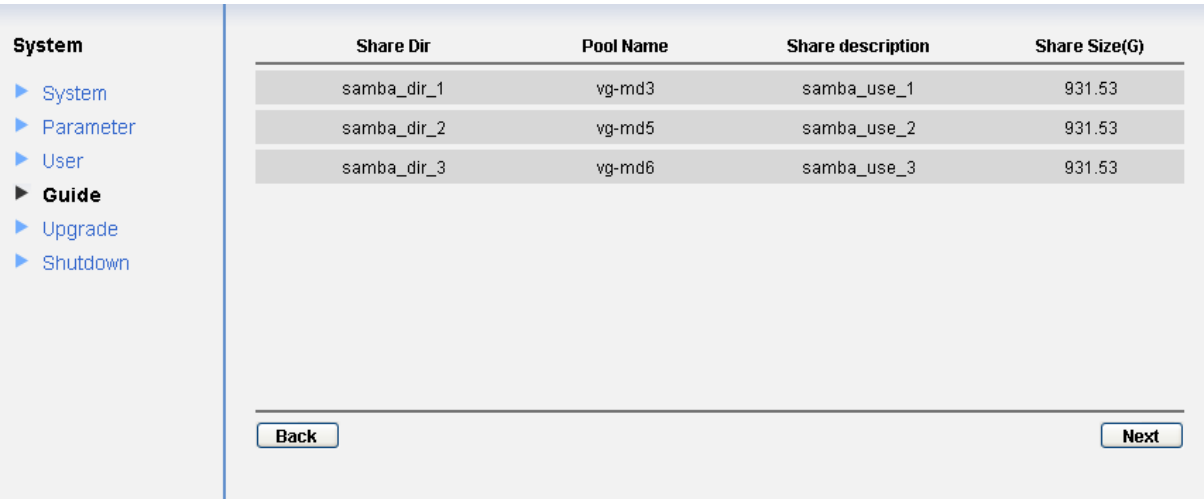


Figure 3-10

- In Figure3-10, click next button, you can see an interface is shown as in Figure 3-11.

Now, you can see there are three SAMBA share folders: samba_dir_1， samba_dir_2， samba_dir_3.

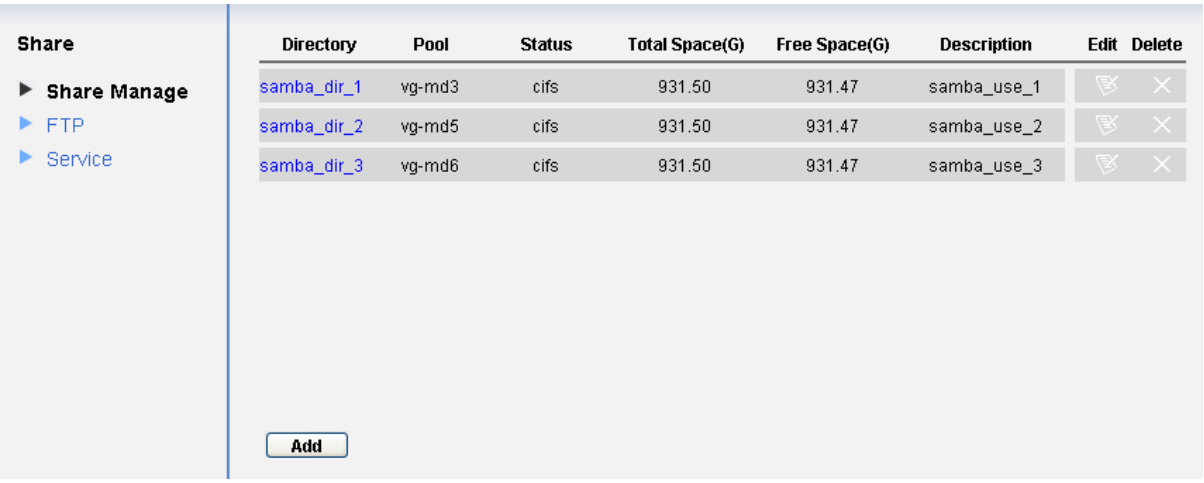
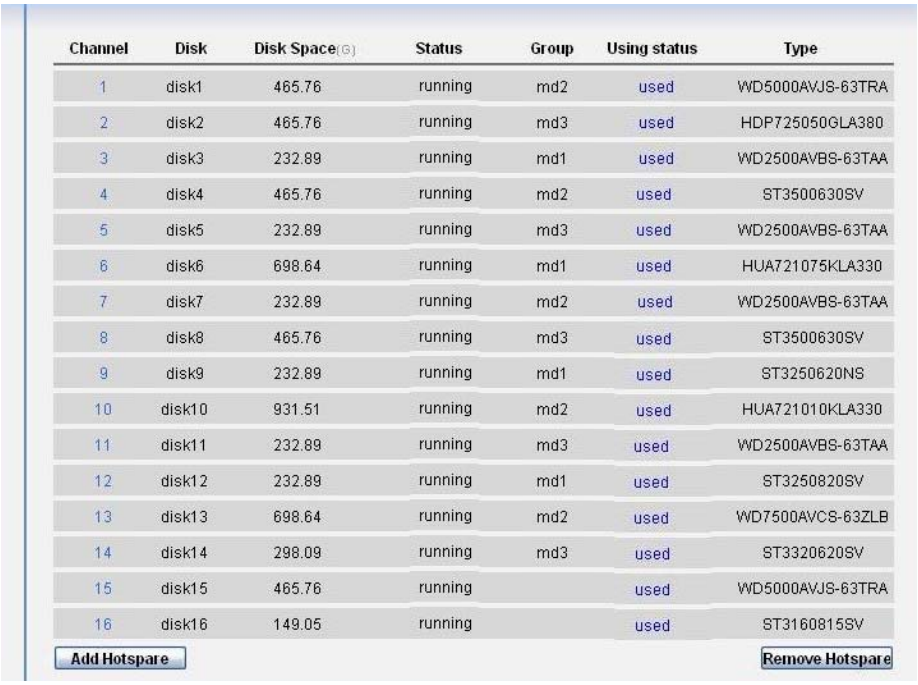


Figure 3-11

After the above operation, the page of disk manage is shown as below. See Figure 3-12.



Channel	Disk	Disk Space(G)	Status	Group	Using status	Type
1	disk1	465.76	running	md2	used	WD5000AVJS-63TRA
2	disk2	465.76	running	md3	used	HDP725050GLA380
3	disk3	232.89	running	md1	used	WD2500AVBS-63TAA
4	disk4	465.76	running	md2	used	ST3500630SV
5	disk5	232.89	running	md3	used	WD2500AVBS-63TAA
6	disk6	698.64	running	md1	used	HUA721075KLA330
7	disk7	232.89	running	md2	used	WD2500AVBS-63TAA
8	disk8	465.76	running	md3	used	ST3500630SV
9	disk9	232.89	running	md1	used	ST3250620NS
10	disk10	931.51	running	md2	used	HUA721010KLA330
11	disk11	232.89	running	md3	used	WD2500AVBS-63TAA
12	disk12	232.89	running	md1	used	ST3250820SV
13	disk13	698.64	running	md2	used	WD7500AVCS-63ZLB
14	disk14	298.09	running	md3	used	ST3320620SV
15	disk15	465.76	running		used	WD5000AVJS-63TRA
16	disk16	149.05	running		used	ST3160815SV

Add Hotspare Remove Hotspare

Figure 3-12

3.2.5 Upgrade

From system to upgrade, here you can see a system upgrade interface is shown as in Figure 3-13.

Administrator can use this service to upgrade software.

After upgrading, please reboot your system.

In Figure 3-13, the upgrade file located at E:\ESS_release\1.17.T\General_ESS3016X_V1.17.T.071113.BIN. Now you can click upgrade button to begin update.

Note

Before you upgrade the system, please go to our official website to download the latest version.

Before you upgrade, please stop SAMBA, NFS, FTP, iSCSI service and RAID synchronization.

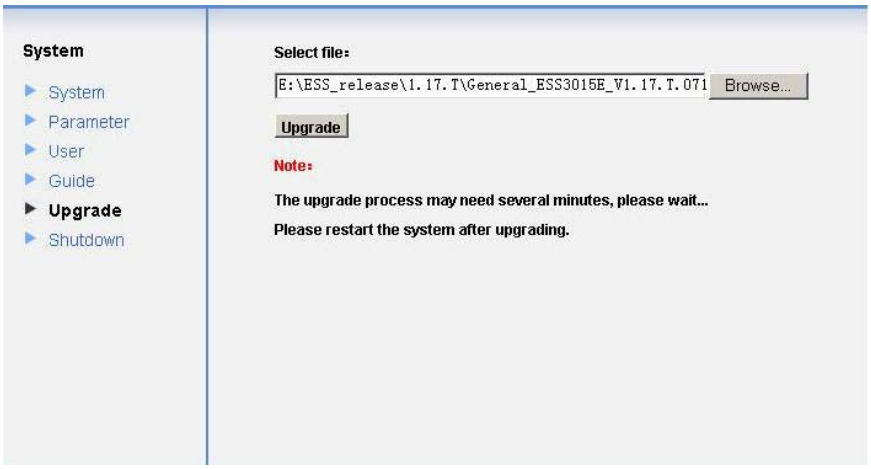


Figure 3-13

3.2.6 Shut down System

Click shut down system button; you can see the following interface. See Figure 3-14.

There are two options for you: shut down the system/reboot.

Figure 3-14

3.3 Network Management

In this interface you can set device network card and router in the LAN.

3.3.1 Network Configuration

Click network configuration button, you can see the following interface.

Here you can view current network card information. See Figure 3-15.

- Network card name
- IP address
- Subnet mask
- Default gateway
- Mac address
- Binding status

- Member card

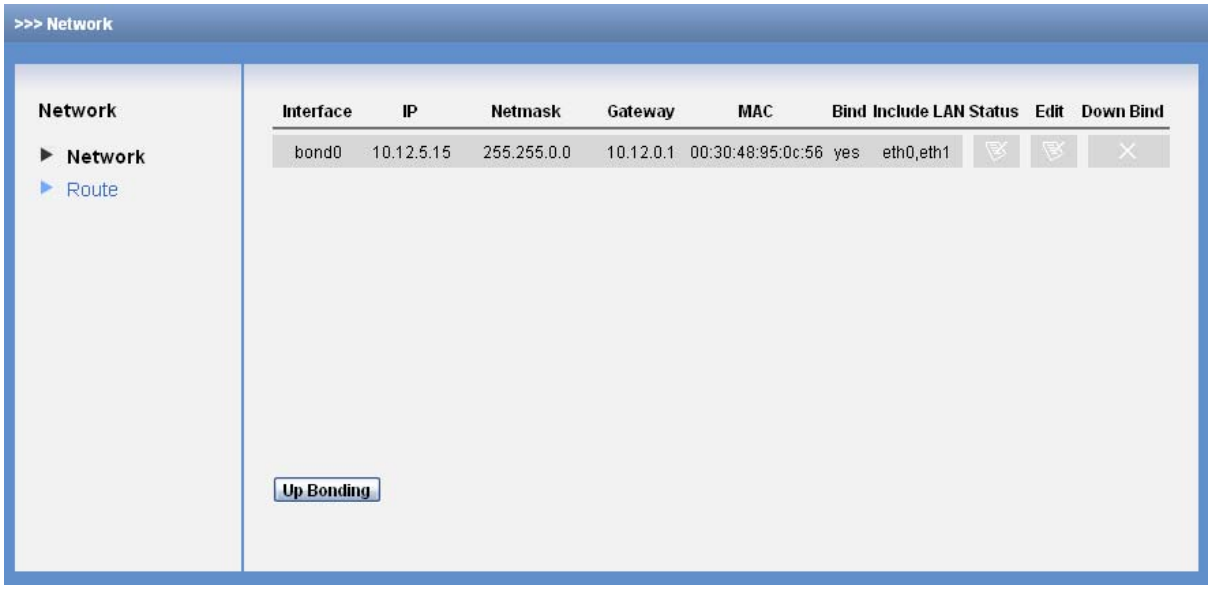


Figure 3-15

3.3.1.1 Set network card

In Figure 3-15, click edit button in, you can see the following interface. After your modification, please click save button to exit. See Figure 3-16.

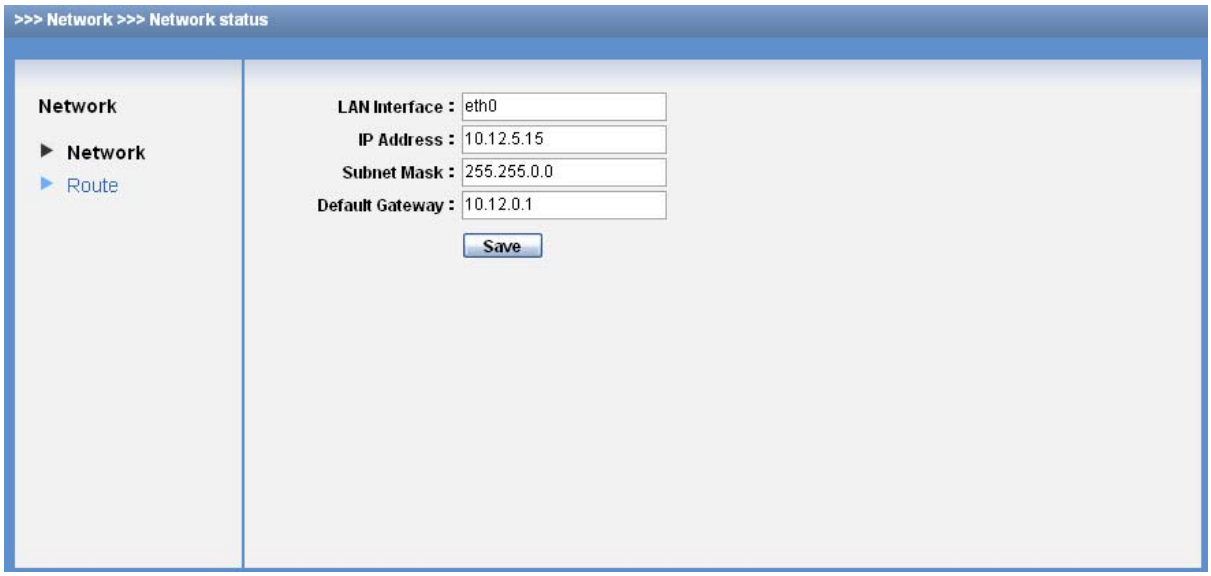


Figure 3-16

3.3.1.2 Status

Click the status button in Figure 3-15, you can view current network card physical connection status and data send out and receive information. See Figure 3-17.

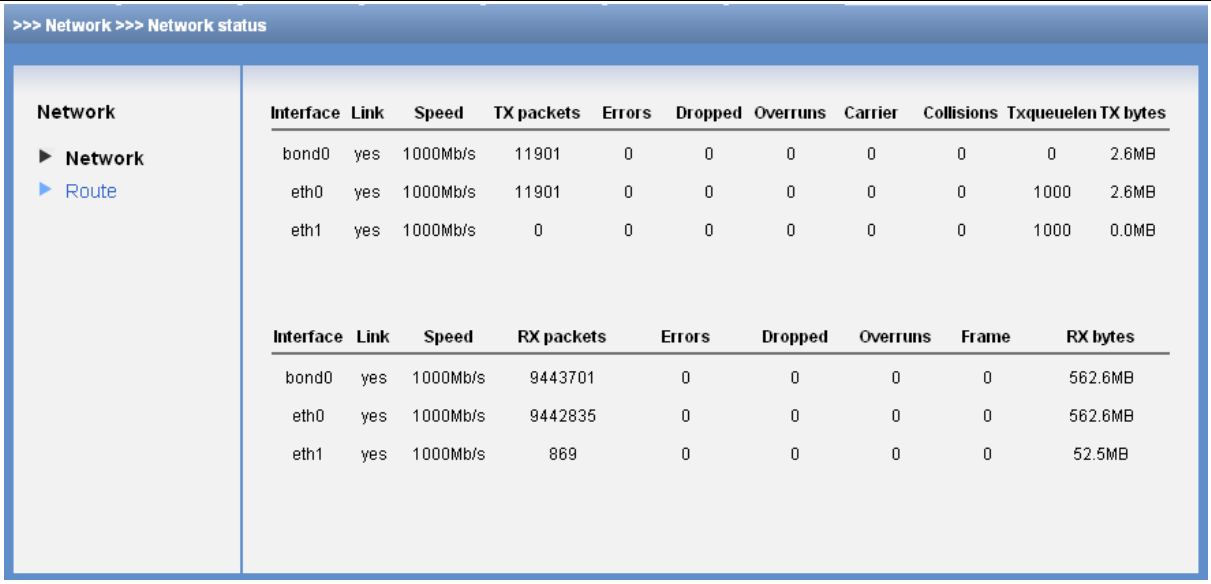

>>> Network >>> Network status
Network
Network
Route
Interface Link Speed TX packets Errors Dropped Overruns Carrier Collisions Txqueuelen TX bytes
bond0 yes 1000Mb/s 11901 0 0 0 0 0 0 2.6MB
eth0 yes 1000Mb/s 11901 0 0 0 0 0 1000 2.6MB
eth1 yes 1000Mb/s 0 0 0 0 0 0 1000 0.0MB
Interface Link Speed RX packets Errors Dropped Overruns Frame RX bytes
bond0 yes 1000Mb/s 9443701 0 0 0 0 562.6MB
eth0 yes 1000Mb/s 9442835 0 0 0 0 562.6MB
eth1 yes 1000Mb/s 869 0 0 0 0 52.5MB

Figure 3-17

3.3.1.3 Remove binding

If you want to remove the network card binding, please click the remove binding button in Figure 3-15. Now you can see an interface is shown as in Figure 3-18.

These two cards are displayed respectively. The independent network card etho information is the same as previous binding information.

If you want to view network card detailed information, please click status button. The interface is similar to Figure 3-17.

If you want to configure the network card, please click corresponding edit button. The interface is similar to Figure 3-16.

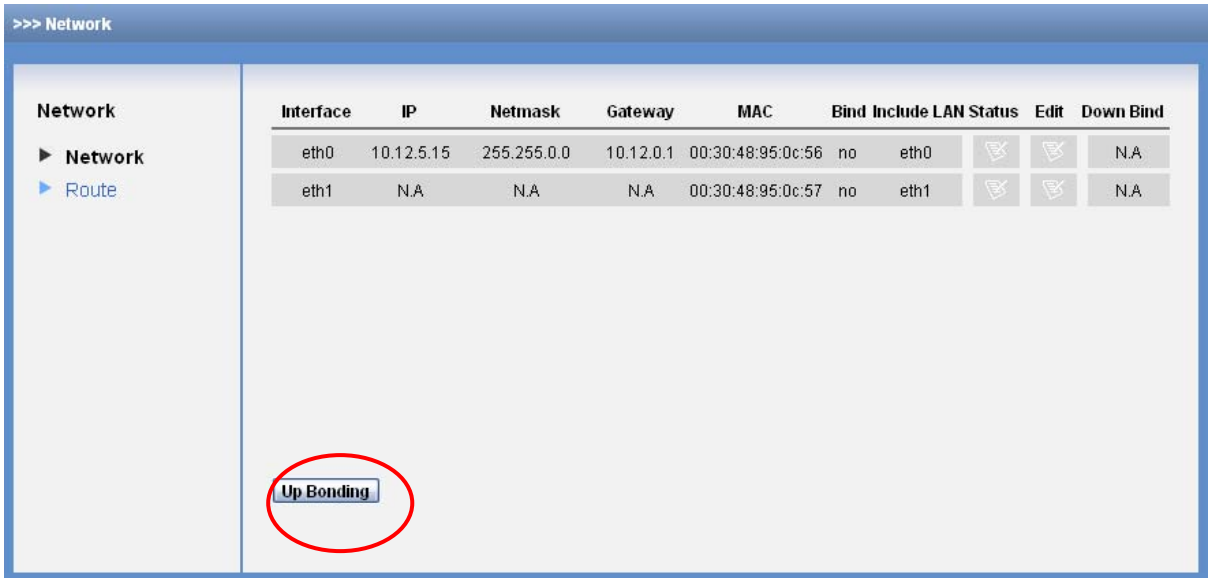

>>> Network
Network
Network
Route
Interface IP Netmask Gateway MAC Bind Include LAN Status Edit Down Bind
eth0 10.12.5.15 255.255.0.0 10.12.0.1 00:30:48:95:0c:56 no eth0 N.A
eth1 N.A N.A N.A 00:30:48:95:0c:57 no eth1 N.A
Up Bonding

Figure 3-18

3.3.1.4 Binding the network card

Click the Up binding button in Figure 3-18, you can go to the following interface. See Figure 3-19. Please select two network cards first and then input IP address, subnet mask and default gateway. Click OK button you can complete the binding setup.

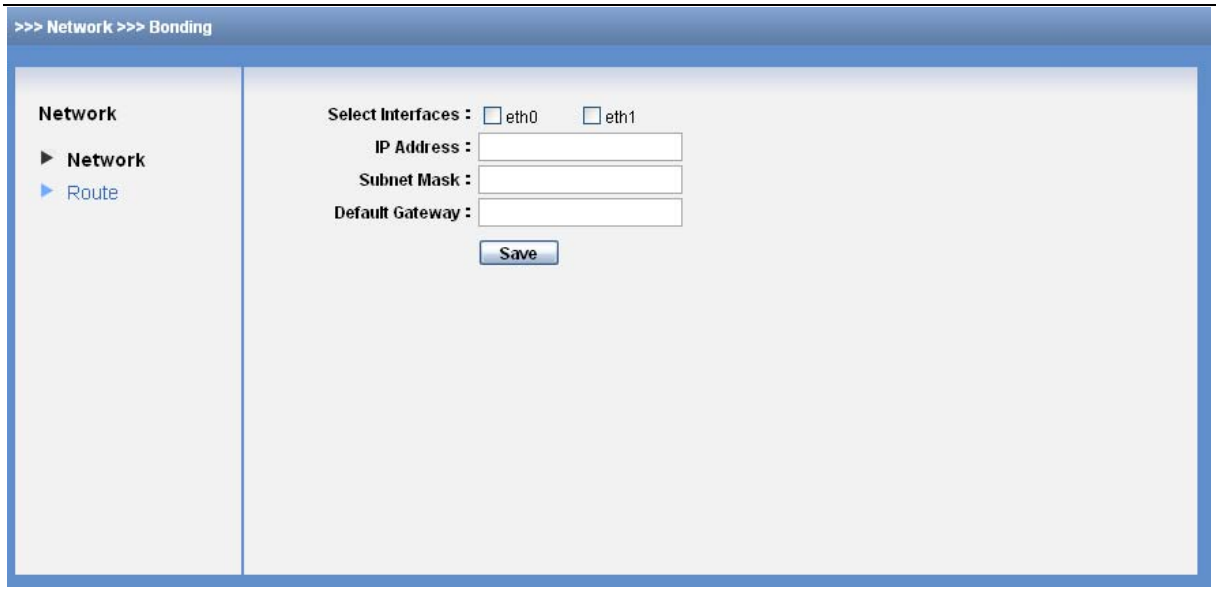


Figure 3-19

3.3.2 Router Configuration

From network, select router item, you can view current router setup. Click delete button, administrator can delete a router. See Figure 3-20.

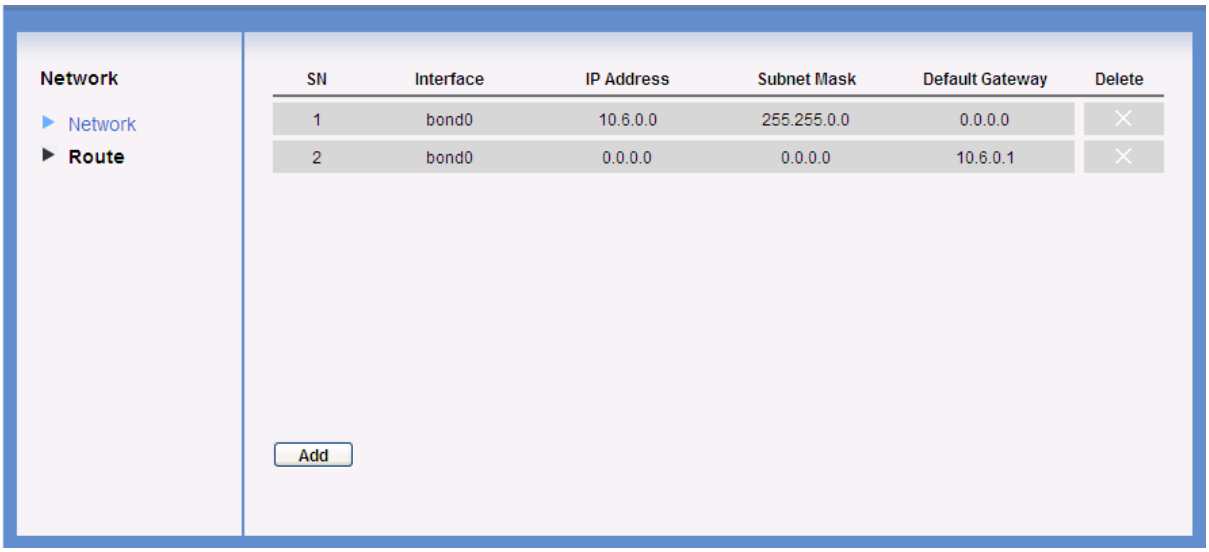


Figure 3-20

If network section has changed, you may need to modify router setup such as add one router. After setting 1 and 2 routers as default network card, system default router setup and IP address are varying when network IP address changes.

- Router 1: This default router setup can guarantee connection between intelligent device and the PC of 10.6.0.0.
- Router 2. This default router setup can guarantee connection between intelligent device and the PC out of 10.6.0.0.

3.4 Disk Management

Disk management is to display HDD physical information in the system, configure multiple HDDs into RAID group and then create storage pool in the RAID group.

3.4.1 Display Disk Information

Click display disk information, you can see the following interface. See Figure 3-21.

Here you can review the following information.

- Serial number
- Channel number
- Disk Name
- Space
- Status
- Group name
- Using status
- Type

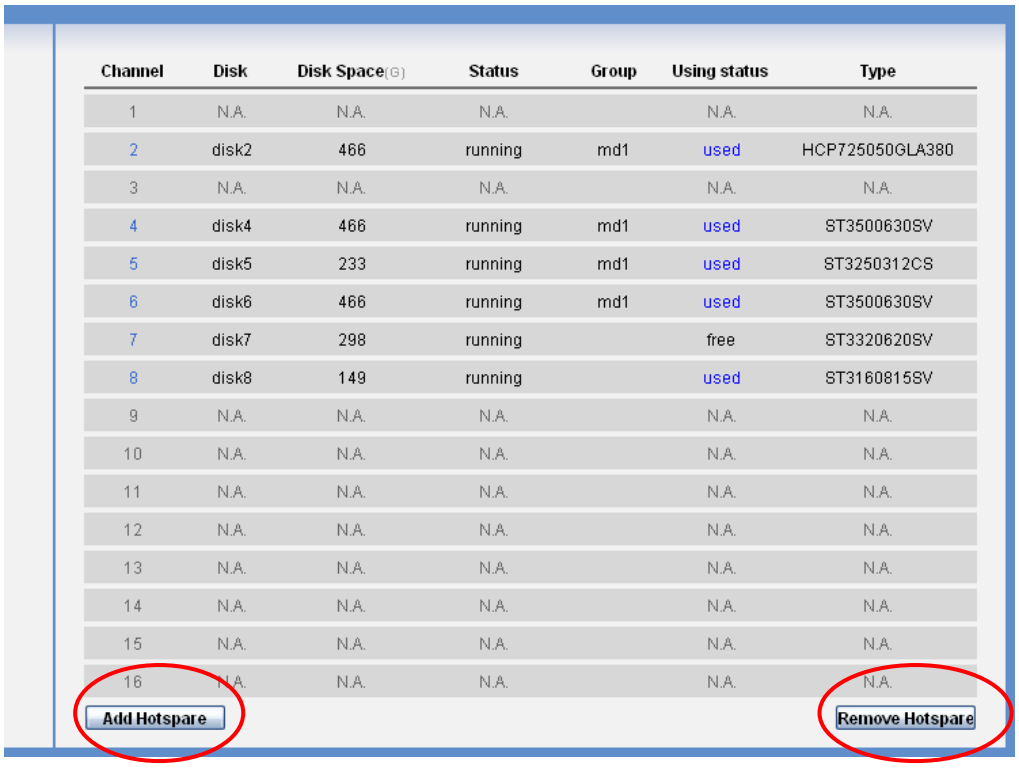

Channel
Disk
Disk Space(G)
Status
Group
Using status
Type
1 N.A. N.A. N.A. N.A. N.A.
2 disk2 466 running md1 used HCP725050GLA380
3 N.A. N.A. N.A. N.A. N.A.
4 disk4 466 running md1 used ST3500630SV
5 disk5 233 running md1 used ST3250312CS
6 disk6 466 running md1 used ST3500630SV
7 disk7 298 running free ST3320620SV
8 disk8 149 running used ST3160815SV
9 N.A. N.A. N.A. N.A. N.A.
10 N.A. N.A. N.A. N.A. N.A.
11 N.A. N.A. N.A. N.A. N.A.
12 N.A. N.A. N.A. N.A. N.A.
13 N.A. N.A. N.A. N.A. N.A.
14 N.A. N.A. N.A. N.A. N.A.
15 N.A. N.A. N.A. N.A. N.A.
16 N.A. N.A. N.A. N.A. N.A.
Add Hotspare
Remove Hotspare

Figure 3-21

3.4.1.1 HDD S.M.A.R.T. information

When disk channel number is blue, it means current channel disk is available. Now you can view disk S.M.A.R.T. information. Click one channel number; you can go to the following S.M.A.R.T.information interface. See Figure 3-22.

It includes the following items:

- Channel
- Read error
- Boot up
- Reallocated

- Seek error
- Boot up
- Correct
- Temperature
- Rate

In the following interface, there are three buttons: return/detail information/initialization. See Figure 3-22.

- Back: You can click it to go to previous interface.
- Initialization: it is to initialize the disk. Disk initialization is going to remove all data in current disk. So, do not use it causally unless there is a must.
- Detail information: You can click it to view more detail information in a new interface. Click return button you can go back to Figure 3-21.

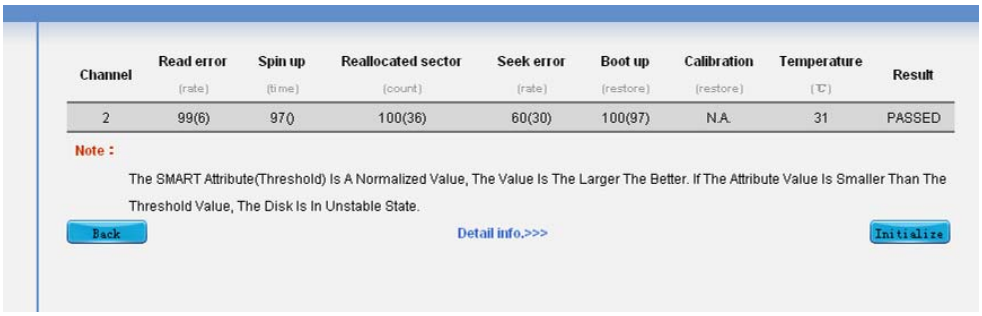


Figure 3-22

3.4.1.2 Add hot spare disk

In Figure 3-21, click add hot swap disk button, you can see an interface is shown as in Figure 3-23.

Here you can view idle disk list. You can click the select button to select the hot spare disk. Then you can click save button to exit.

Please note one device can max have four hot spare disks.

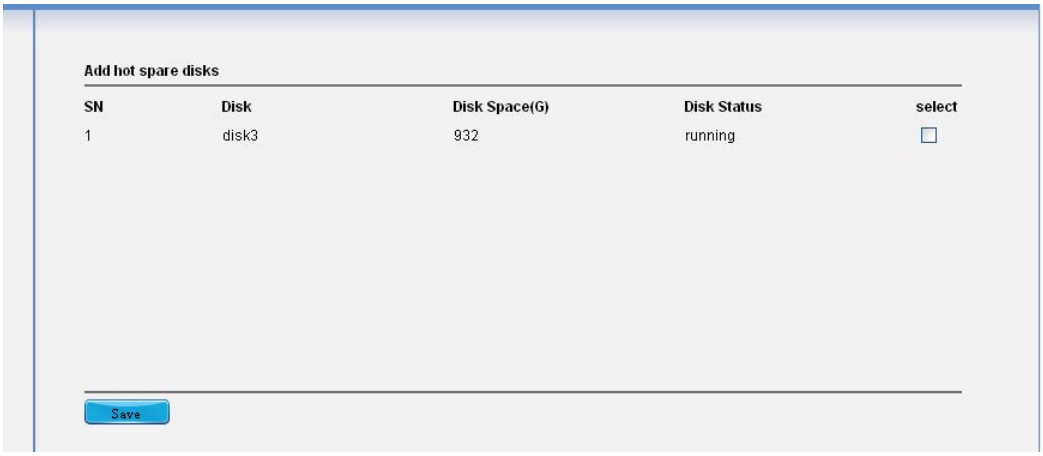


Figure 3-23

3.4.1.3 Remove hot spare disk

In Figure 3-21, click remove hot spare disk button, you can see an interface is shown as in Figure 3-24.

Please note all the disks in the list are hot spare disks. You can click the select button and then click save to remove the hot spare disk. The specified disk now becomes idle.

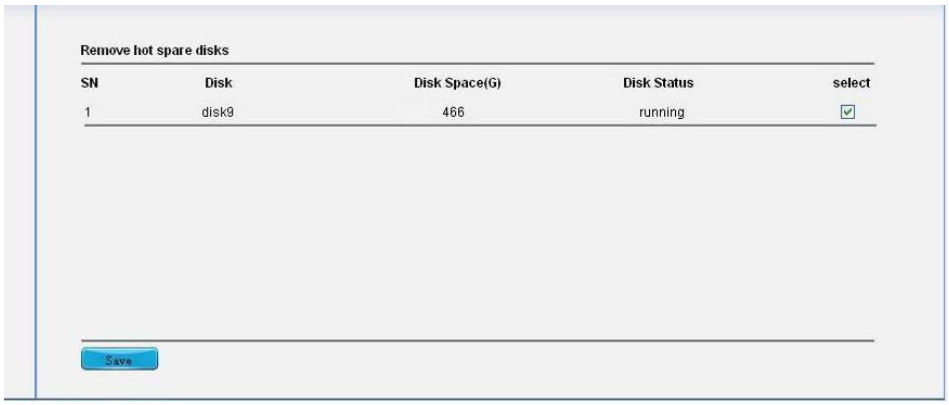


Figure 3-24

3.4.2 RAID Configuration

Click RAID button, you can see an interface is shown as in Figure 3-25.
Here you can see the following information:

- RAID name
- Type: RAID5 , RAID0 , RAID1
- Status: such as synchronization, or synchronization speed.
- Member disk
- Total space(Unit: G)
- The RAID consists of three statuses: "clean degraded,recovering" , "clean,resyncing" and "clean". You can refer to appendix A for status definition. If current RAID device is malfunction, the status is "inactive".
- RAID1 and RAID5 support data restore function, but it becomes usable after synchronization.

In Figure 3-25, you can get the following information:

- There are four RAID devices, device names are :md44，md45，md46，md47 and among which, md47 is RAID0 device,md46 is RAID1 device and others are RAID5 device.
- Md47 has finished synchronization (Its status is shown as clean). Md46, md45 and md44 are synchronizing. Here you can also see synchronization speed and progress. For example, for md44, it has completed 3.3% and synchronization speed is 3.02MB/s.
- Md47 member disks are disk12, disk13, disk14 and disk15.
  Md46 member disk are disk9 and disk11.
  Md45 member disk are disk5, disk6, disk7 and disk8.
  Md44 member disk are disk1, disk2, disk3 and disk4.
- Md47 total space is 1462.50G
  Md46 total space is 465.76G
  Md45 total space is 698.66G
  Md44 total space is 698.66G

Please refer to the following content for RAID device space calculation.

1) **RAID 5**:the total amount of N *disk = (N-1) × min(capacity) among which, capacity N stands for the aggregation of the total disk. You can refer to the amount displayed on the web.
2) **RAID 1**: the total amount of N*disk= min (capacity), among which capacity N stands for the aggregation of the total disk. You can refer to the amount displayed on the web.
3) **RAID 0**: the total amount of N*disk=disk space *disk amount. You can refer to the amount displayed on the web.

Note

If RAID device is synchronizing now, you can see the synchronization process and speed (MB/s). During the synchronization process, **please do not** use current device to create the storage logical volume

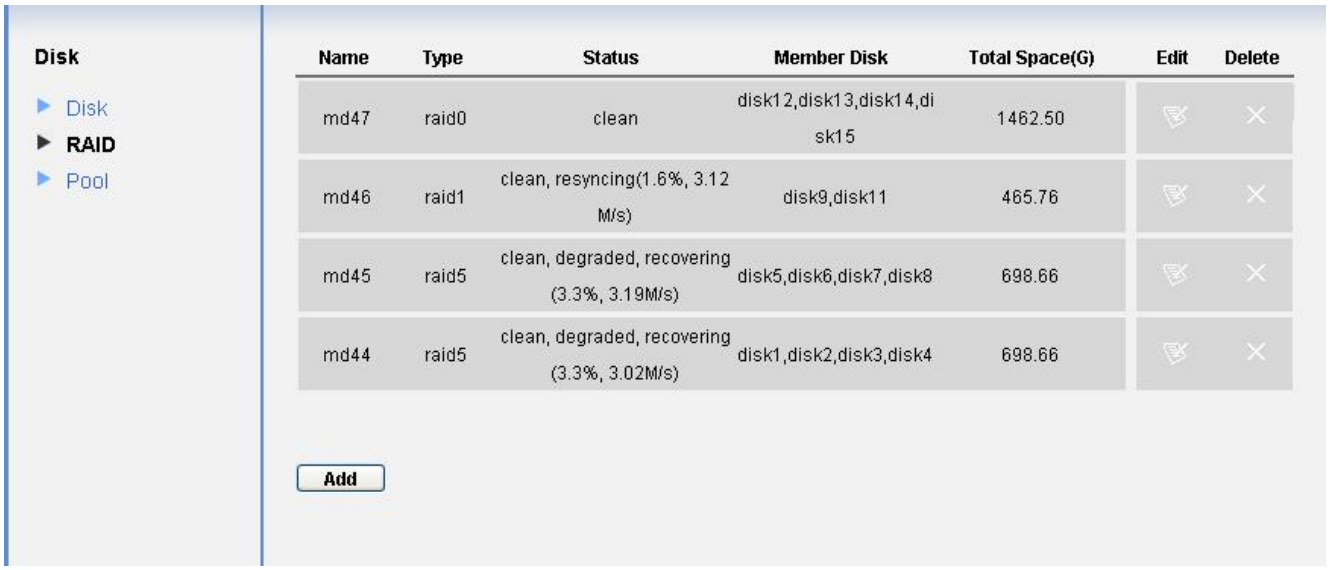


Figure 3-25

3.4.2.1 Edit RAID configuration

Click edit button, you can see the following interface. Here you can remove or add a disk. See Figure 3-26.

Note

Only RAID1 and RAID5 can support disk remove or add operation.

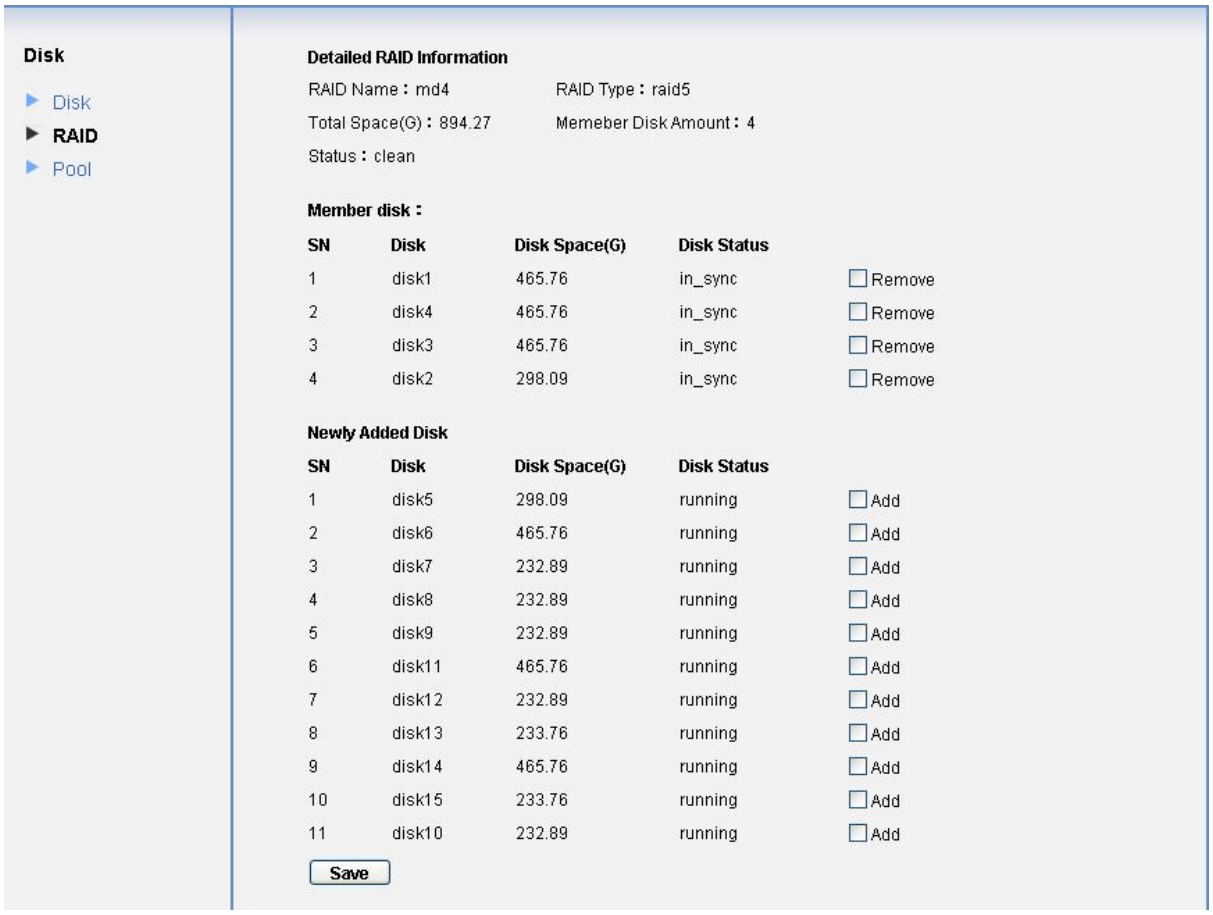

Disk
Disk
RAID
Pool
Detailed RAID Information
RAID Name : md4
RAID Type : raid5
Total Space(G) : 894.27
Memeber Disk Amount : 4
Status : clean
Member disk :
SN Disk Disk Space(G) Disk Status
1 disk1 465.76 in_sync Remove
2 disk4 465.76 in_sync Remove
3 disk3 465.76 in_sync Remove
4 disk2 298.09 in_sync Remove
Newly Added Disk
SN Disk Disk Space(G) Disk Status
1 disk5 298.09 running Add
2 disk6 465.76 running Add
3 disk7 232.89 running Add
4 disk8 232.89 running Add
5 disk9 232.89 running Add
6 disk11 465.76 running Add
7 disk12 232.89 running Add
8 disk13 233.76 running Add
9 disk14 465.76 running Add
10 disk15 233.76 running Add
11 disk10 232.89 running Add
Save

Figure 3-26

1) **RAID 5**.

Remove disk: You can max remove one disk. The data will not be damaged and the RAID 5 device runs properly. Errors may occur if you remove more than one disk.

Important

Do not remove disk casually especially when the RAID is synchronizing. If you find one of the RAID has a problem and need to be removed, please remove it first and then open the chassis cover to dismantle the disk.

Insert disk: this operation is also forbidden during the synchronization process. You need to remove one disk if you want to insert a new one. RAID begins new synchronization after inserting a new one. The data in the disk will not be lost.

2) RAID1

Remove disk: You can max remove one disk. The data will not be damaged and the RAID 1 device runs properly. Errors may occur if you remove more than one disk.

Important

Do not remove disk casually especially when the RAID is synchronizing. If you find one of the RAID 1 has a problem and need to be removed, please remove it first and then open the cover to dismantle the disk.

Insert disk: this operation is also forbidden during the synchronization process. You need to remove one disk if you want to insert a new one. RAID begins new synchronization after inserting a new one. The data in the disk will not be lost.

3) RAID0

You can not remove or add disk operation. See Figure 3-27.

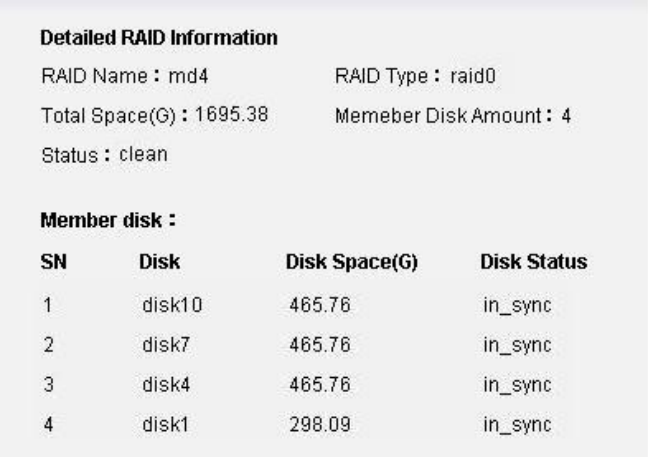

Detailed RAID Information
RAID Name : md4
RAID Type : raid0
Total Space(G) : 1695.38
Memeber Disk Amount : 4
Status : clean
Member disk :
SN Disk Disk Space(G) Disk Status
1 disk10 465.76 in_sync
2 disk7 465.76 in_sync
3 disk4 465.76 in_sync
4 disk1 298.09 in_sync

Figure 3-27

3.4.2.2 Add RAID configuration

Click add button, you can see the following interface.

In Figure 3-28, administrator can select RAID type such as RAID0 and then select the member disk. The damaged or used disks will not be listed in current interface. Please click save button to finish the operation.

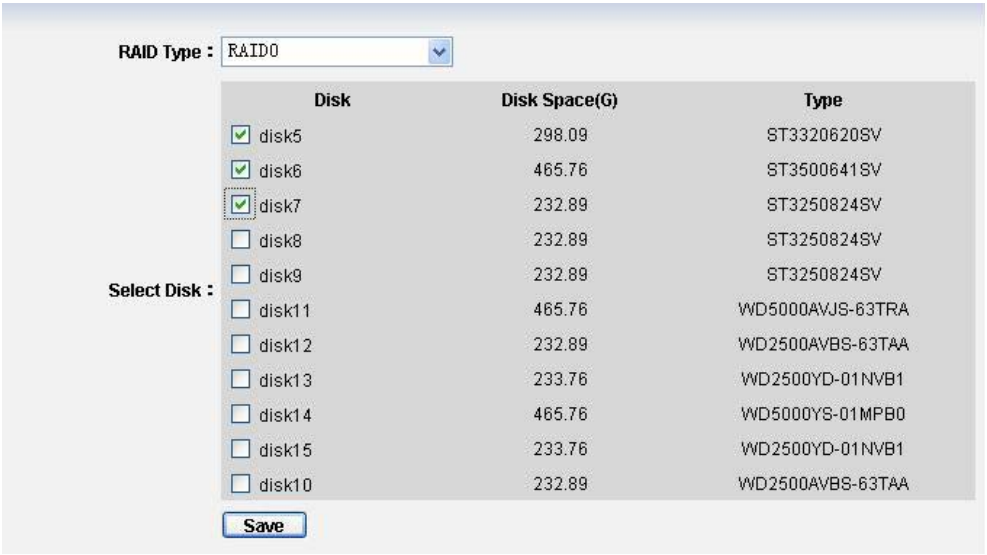


Figure 3-28

3.4.2.3 Remove RAID configuration

The remove operation consists of the following three situations. You can refer to Figure 3-25.

- If current RAID is free (there is no storage pool), you can just click remove button to remove it directly.

- If current RAID has been used (there is a storage pool), but there is no share folder. Click remove button, you can see system pop up a dialogue to warn you. You need to remove storage pool and then remove the RAID group.
- If current RAID has been used (there is a storage pool) and there is share folder. Click remove button, you can see system pop up a dialogue box to warn you. You need to delete share folder and storage pool first, and then you can remove the RAID group.

3.4.3 Storage Pool Configuration

In storage pool interface, you can see the following interface. See Figure 3-29.
Here you can view the following information:

- Storage pool name
- Member device.
- Total space
- Used space.
- Edit
- Delete

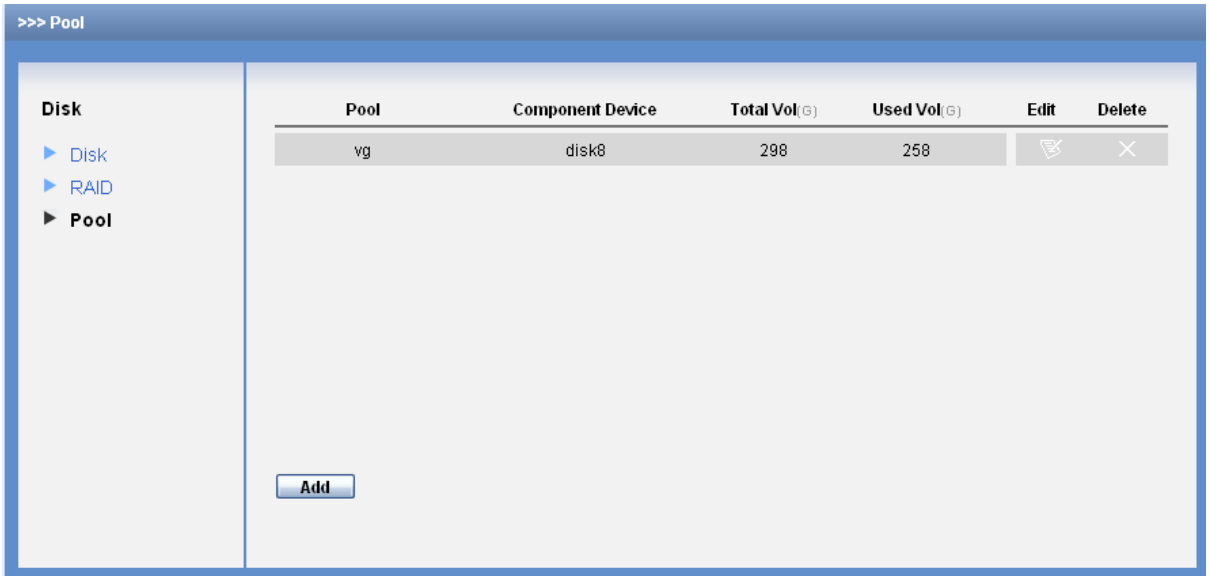


Figure 3-29

3.4.3.1 Add Storage Pool

In Figure 3-29, click add button, you can see the following interface. See Figure 3-30.
Here you can select RAID device （RAID5 / RAID1 / RAID0）, single disk (such as disk),disk combination(such as sdg,sdh) to create a storage pool. Click save button after creating storage pool device.

Note

For storage pool device, RAID1/RAID5 is recommended.

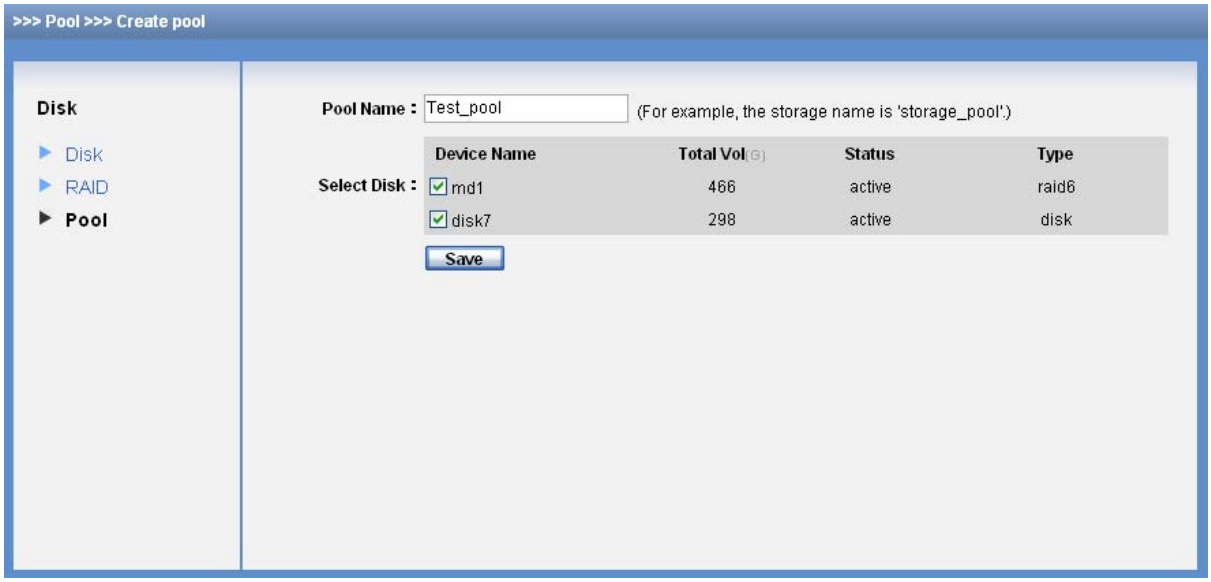


Figure 3-30

3.4.3.2 Edit Storage Pool

In Figure 3-29, click edit button, the interface is shown as in Figure 3-31.

Here you can view all share folder information in current storage pool. If there is malfunction problem (umount), you can view the corresponding remove button.

Note

CIFS means SAMAB share mode and ftp means FTP share mode.

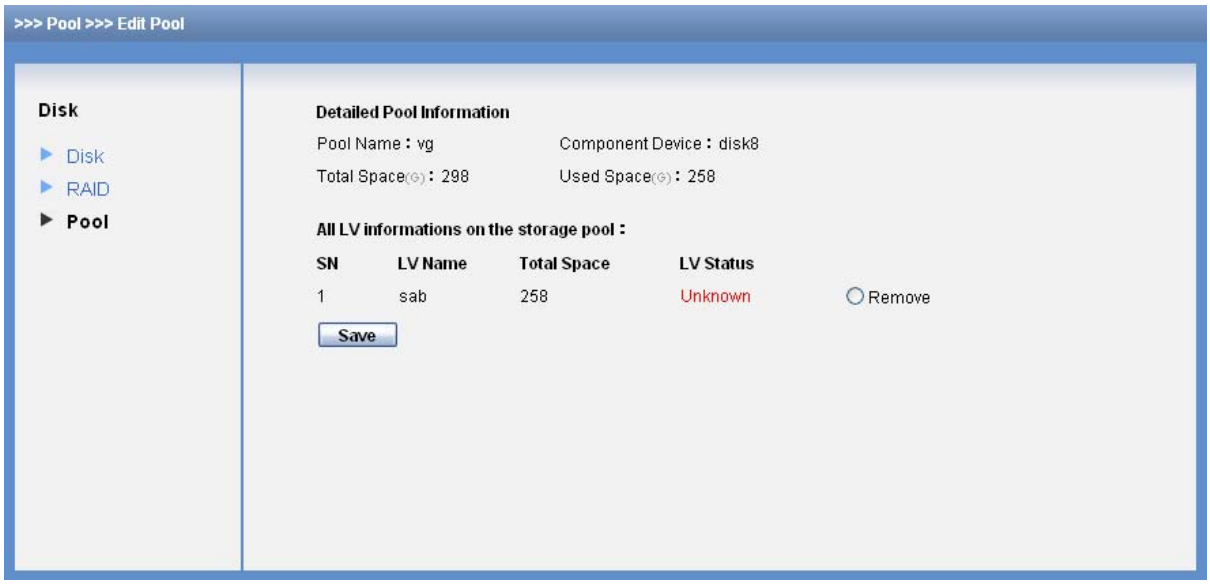


Figure 3-31

3.4.3.3 Remove Storage Pool

The remove operation consists of the following two situations. You can refer to Figure 3-29.

- Click remove button if there is no share folder in the storage pool.
- You can see a dialogue box pops up if there is a share folder. You need to delete share folder first and then remove the storage pool.

3.5 iSCSI Management

iSCSI is to provide iSCSI share service for you.

3.5.1 iSCSI Configuration

The iSCSI configuration interface is shown as in Figure 3-32.

Here you can see the following information.

Current system has three iSCSI share devices.

We take the first iSCSI share device for an example.

- The iSCSI share device name is iqn.2006-05.com.dahuatec:DVRch.20071108195910, among which DVRch1 is you self-defined share folder name.
- The share folder target path is /dev/pool1/DVRch1, which means the share device is created in pool1.
- iSCSI total space is 100G.

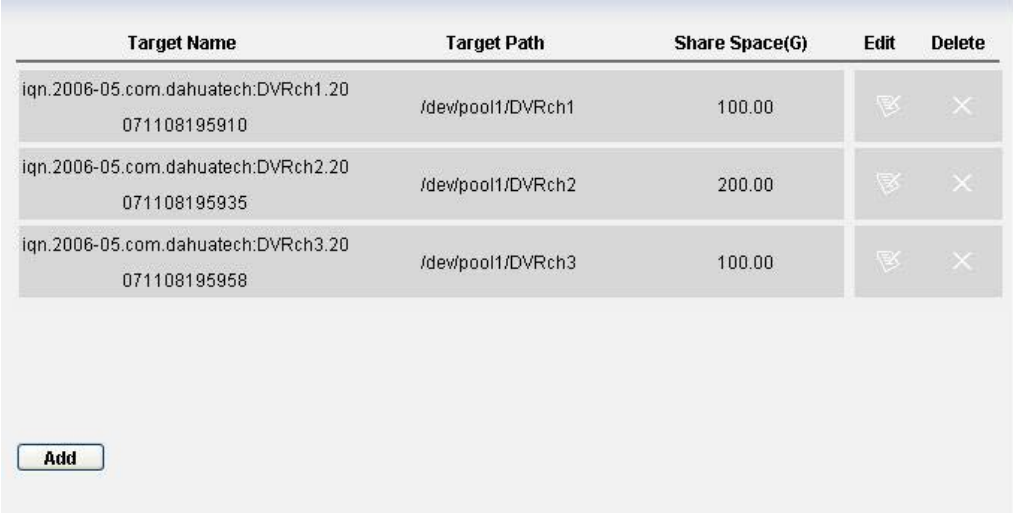


Figure 3-32

3.5.1.1 Add iSCSI share configuration

Note

Before you add iSCSI share device, you need to create a storage pool first.

The interface is shown as in Figure 3-33.

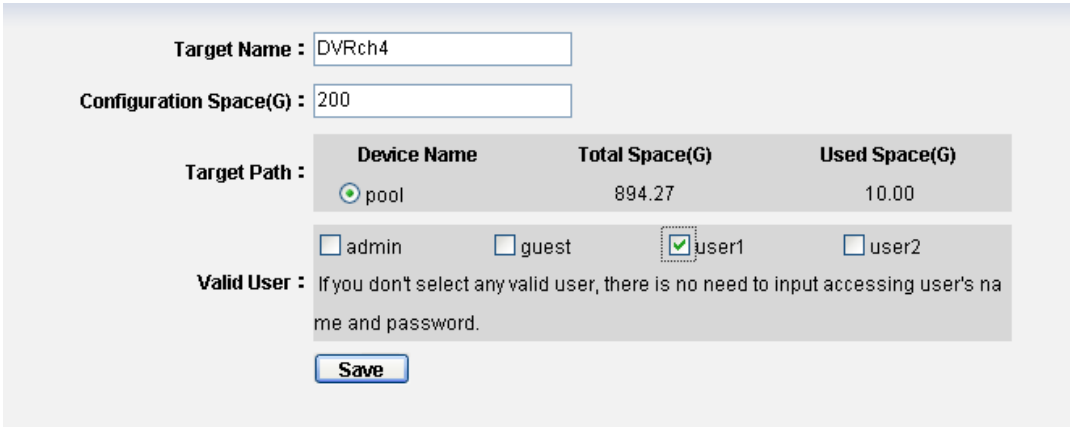


Figure 3-33

Here you need to configure the following four items when you adding iSCSI share.

- Target (mapping) name: it is a part of iSCSI share device name. It is easy for you to recognize the iSCSI device.
- Configuration space: Here you can set device size. Unit is G.
- Mapping directory: you can select a storage pool to create iSCSI share device.
- Valid user:
  - ✧ Select a valid user: when loading an iSCSI share you need to input a valid user name and password.
  - ✧ Do not select a valid user: when loading an iSCSI share you do not need to input a valid user name and password.

In Figure 3-33, you can see the following information:

- The created path name is DVRch4
- The configuration space is 200G.
- The iSCSI is created in pool. The pool total space is 700G and used space is 35G.
- iSCSI device valid user is user1.

3.5.1.2 Access iSCSI share

You need to load iSCSI Initiator software to use iSCSI share function

There are two situations:

- iSCSI has shared valid user: when loading an iSCSI share you need to input a valid user name and password.
- iSCSI does not have shared valid user: when loading an iSCSI share you do not need to input a valid user name and password.

3.5.1.3 Delete iSCSI share configuration

In iSCSI main interface (See Figure 3-32), from the share list, you can select an iSCSI share device and then click remove button.

3.6 Share Management

Share management is to configure SAMBA, NFS, FTP,iSCSI share service and control their statuses. SAMBA is to provide share service for Windows user. NFS is to provide share service for Linux user and FTP is to provide share service for both Windows and Linux users. See Figure 3-34.

Figure 3-34

3.6.1 Share configuration

From share to share manage, you can see an interface.

This interface is to display SAMBA,NFS and FTP share information. Here you can also add, edit or delete share folder.

3.6.1.1 Add share folder.

Note

Before you adding share folder, please create a storage pool first.

In the interface, click add button. You can see an interface is shown as in Figure 3-35. It is an interface for you to add share folder.

Here you can input the following information:

- ✧ Pool name: You can select a pool name (such as pool) from the dropdown list. (All pools listed here are created and available to use.)
- ✧ Share directory name: it is the share folder name (such as DVRch-4).
- ✧ Share space: here is for you to set share folder space (such as 100G).
- ✧ Share description (Optional): Here you can input description information (Data from DVR channel -4).

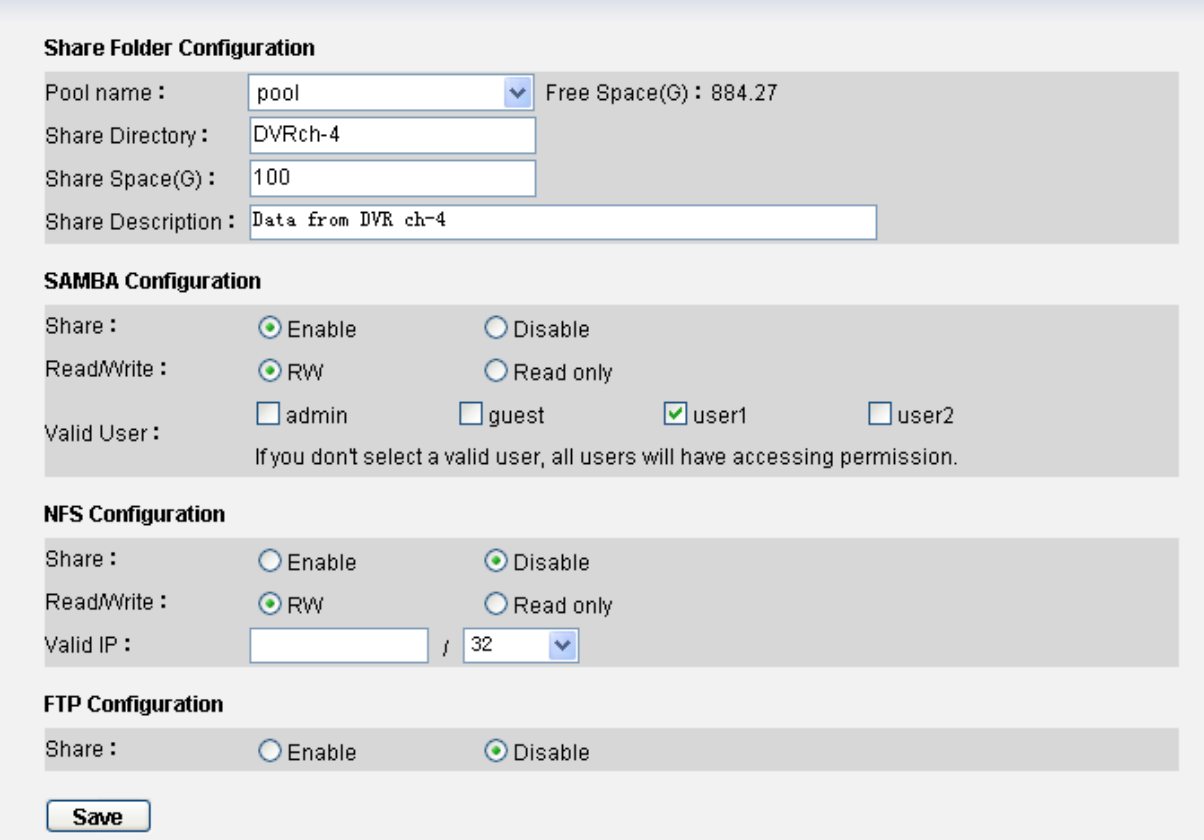


Figure 3-35

1) Add SAMBA share (In Figure 3-35)

1. Set share folder information.
2. Enbale SAMBA share and then disable NFS and FTP share,
3. Read/write right setup:

✧ Read only: all accessing users can read current folder only.

✧ R/W: All accessing users can read and write current folder.

4. Valid user

✧ If there is no valid user, all log-in users can access current folder.

✧ If there is valid user such as user1, other users can not access current folder.

2) Add NFS share

1. Set share folder information.
2. Enable NFS share and then disable SAMBA and FTP share,
3. Read/write right setup:

✧ Read only: all accessing users can read current folder only.

✧ R/W: All accessing users can read and write current folder.

4. Valid IP

✧ If there is valid IP, only user of IP 10.6.5.77 can access NFS share. The user right is read /write. See Figure 3-36.

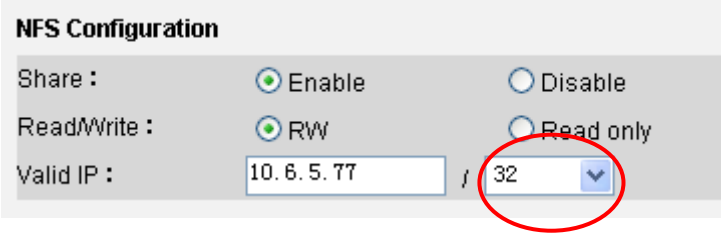


Figure 3-36

✧ In Figure 3-37, all Linux users of IP 10.6.0.0 to 10.6.255.255 can access NFS share. The user right is read and write.

Figure 3-37

Please note: in Figure 3-36 and Figure 3-37, 16 and 32 are just two ways to display subnet mask. "32" stands for 255.255.255.255 and "16" stands for 225.255.0.0.

3) Add FTP share

1. Set share folder information.
2. Enable FTP share and then disable NFS and SAMBA share,
3. Click save button.

3.6.1.2 Edit share folder.

Click edit button after corresponding folder. You can see an interface is shown as in Figure 3-38 Here you can modify share description, modify share status (SAMBA, NFS, FTP). SAMBA valid user, SAMBA R/W right,NFS R/W right and NFS valid user.

After your modification, please click save button.

Note

After you click save button, SAMBA and NFS service will reboot and all current share operation will be terminated!

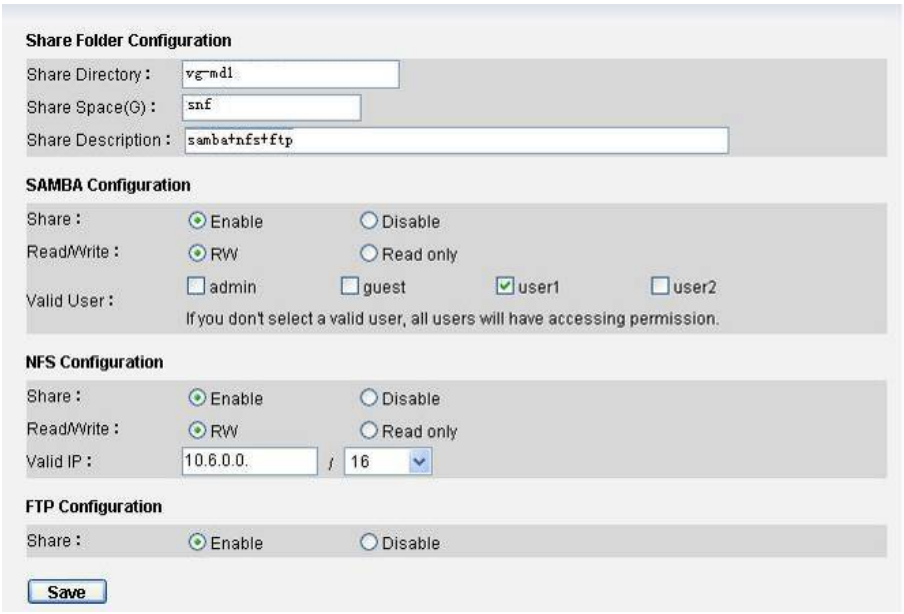


Figure 3-38

3.6.1.3 Access share folder

In share list of the share configuration main interface, if its share mode is "cifs', then it is a SAMBA share folder. If its share mode is "nfs", it is a NFS share folder. If its share mode is "ftp", it is a FTP share. System also provide more than one share service such as "cifs,nfs" , "nfs,ftp" or "cifs,nfs,ftp".

Access SAMBA share folder.

There are two ways for you to access SAMBA share folder

- Web access

In SAMBA, click a SAMBA name from the share list and then input corresponding user name and password.

- IE access

Open IE browser, input 3016X internet intelligent storage IP address in the address column, such as \\10.6.5.88

System pops up an interface for you to input user name and password. Now you can log in the SAMBA share folder. See Figure 3-39.

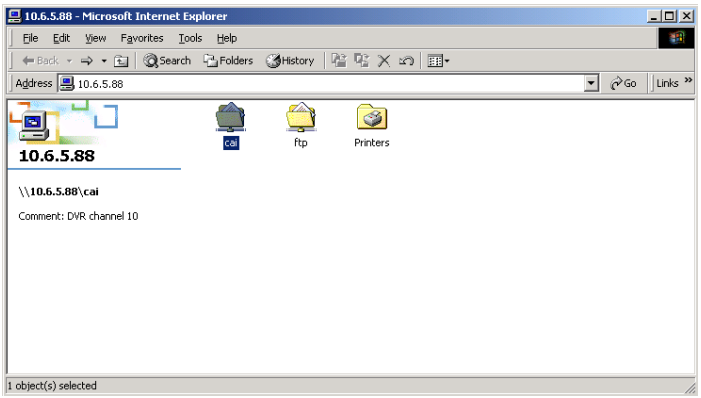


Figure 3-39

Access NFS share folder

Click edit button of NFS share folder （10）to view detailed path. In Linux environment, mount NFS share to one folder and then access the folder in the Linux environment.

Note:

- ✧ Before you mount, please open Linux user platform and NFS service of 3016X internet intelligent storage.
- ✧ Detailed mount command (Linux),

mount –t nfs 10.6.5.76：/mnt/pool1/DVRch2/DVRch2 /home/user

10.6.5.76： 3016X internet intelligent storage device IP address；

/mnt/pool1/DVRch2/DVRch2： NFS share folder in 3016X internet intelligent storage device；

/home/user： Mount folder in Linux

- ✧ Use command to un-install the mount.

umount /home/user

/home/user： Mount folder in Linux

Access FTP share folder

There are two ways for you to access FTP share folder.

- IE access

Input 3016X internet intelligent storage IP address (such as 10.6.5.88) in the IE address column. System pops up a dialogue box, please input user name and password. See Figure 3-40.

System default FTP user name is ftpuser.

Default FTP password:111111111111.

Note

There is only one FTP user: ftpuser. For security reasons, please modify your password after you first log in.

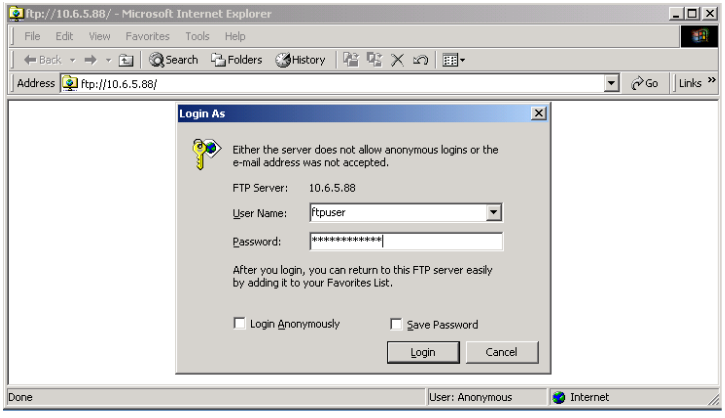


Figure 3-40

- FTP software access

You can install a FTP software (such as LeapFTP, flashfxp) to realize FTP share.

3.6.1.4 Delete share folder

Share folder can be divided into two situations:

- Disable share property (folder still exists).

- ✧ Disable SAMBA share: In share configuration interface, from the share list, click the edit button. You can go to the edit interface. Select to disable SAMBA share and then click save button. (See Figure 3-38)
- ✧ Disable NFS share. In share configuration interface, click the edit button of the share folder you want to delete. You can go to edit interface. Select to disable NFS share and then click save button. (See Figure 3-38)
- ✧ Disable FTP share. In share configuration interface, click the edit button of the share folder you want to delete. You can go to edit interface. Select disable FTP share and then click save button. (See Figure 3-38)

Note

When it is in multiple share modes, you can use either or all of the methods to disable share.

- Delete share folder completely.

In share configuration interface (See Figure 3-34), select the item from the share list and then click corresponding delete button. The folder will be deleted permanently.

3.6.2 FTP Configuration

Click FTP configuration, the interface is shown as in Figure 3-41.

Here you can view FTP configuration information. You can set FTP share folder, delete FTP share folder.

In Figure 3-41, you can see the following information:

Transmission speed (unit: KB) is 1000.

IP connected amount: each IP only allows 2 connections.

Total connection amount is 64.

Please note: When transmission speed is 0KB, it stands for there is no transmission limit.

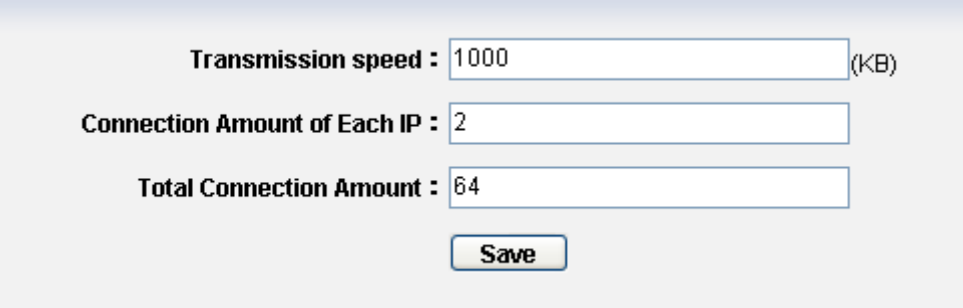


Figure 3-41

3.6.3 Service Management

From share to service, you can see the following interface. See Figure 3-42.

Here you can enable, disable or start SAMBA, NFS, FTP, iSCSI service.

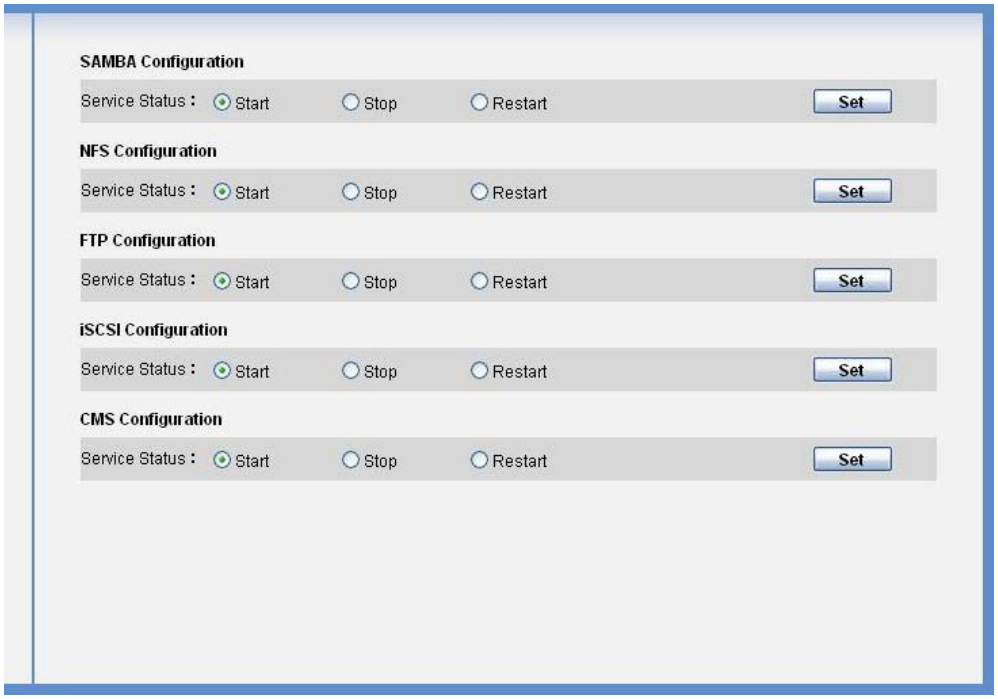

SAMBA Configuration
Service Status : Start Stop Restart Set
NFS Configuration
Service Status : Start Stop Restart Set
FTP Configuration
Service Status : Start Stop Restart Set
iSCSI Configuration
Service Status : Start Stop Restart Set
CMS Configuration
Service Status : Start Stop Restart Set

Figure 3-42

3.6.3.1 SAMBA Configuration

- ✧ Enable SAMBA service: check start item and then click set button.
- ✧ Disable SAMBA service. Check stop item and then click set button.
- ✧ Restart SAMBA service. Check restart item and then click set button.

3.6.3.2 NFS Configuration

- ✧ Enable NFS service: check start item and then click set button.
- ✧ Disable NFS service, check stop button and then click set button.
- ✧ Restart NFS service: check restart button and then click set button.

3.6.3.3 FTP Configuration

- ✧ Enable FTP service: check start item and then click set button.
- ✧ Disable FTP service: check stop button and then click set button.
- ✧ Restart FTP service: check restart button and then click set button.

3.6.3.4 iSCSI Configuration

- ✧ Enable iSCSI service: check start item and then click set button.
- ✧ Disable iSCSI service: check stop button and then click set button.
- ✧ Restart iSCSI service: check restart button and then click set button.

3.6.3.5 CMS Configuration

- ✧ Enable CMS service: check start item and then click set button.
- ✧ Disable CMS service: check stop button and then click set button.
- ✧ Restart CMS service: check restart button and then click set button.

3.7 Status Management

Status management is to view system log, system status and system upgrade.

3.7.1 Log Review

Click log view button, you can see the following interface. See Figure 3-43.
Log search consists of three modes:

- Search all logs: click search button you can see all logs.
- Search the recent logs: input log amount you want to view in the () and then click search button. Please note system take current time as starting time.
- Search the log during the specific time period. You can input a time period in the interface to search the log you want to view.
- System also supports log export function.

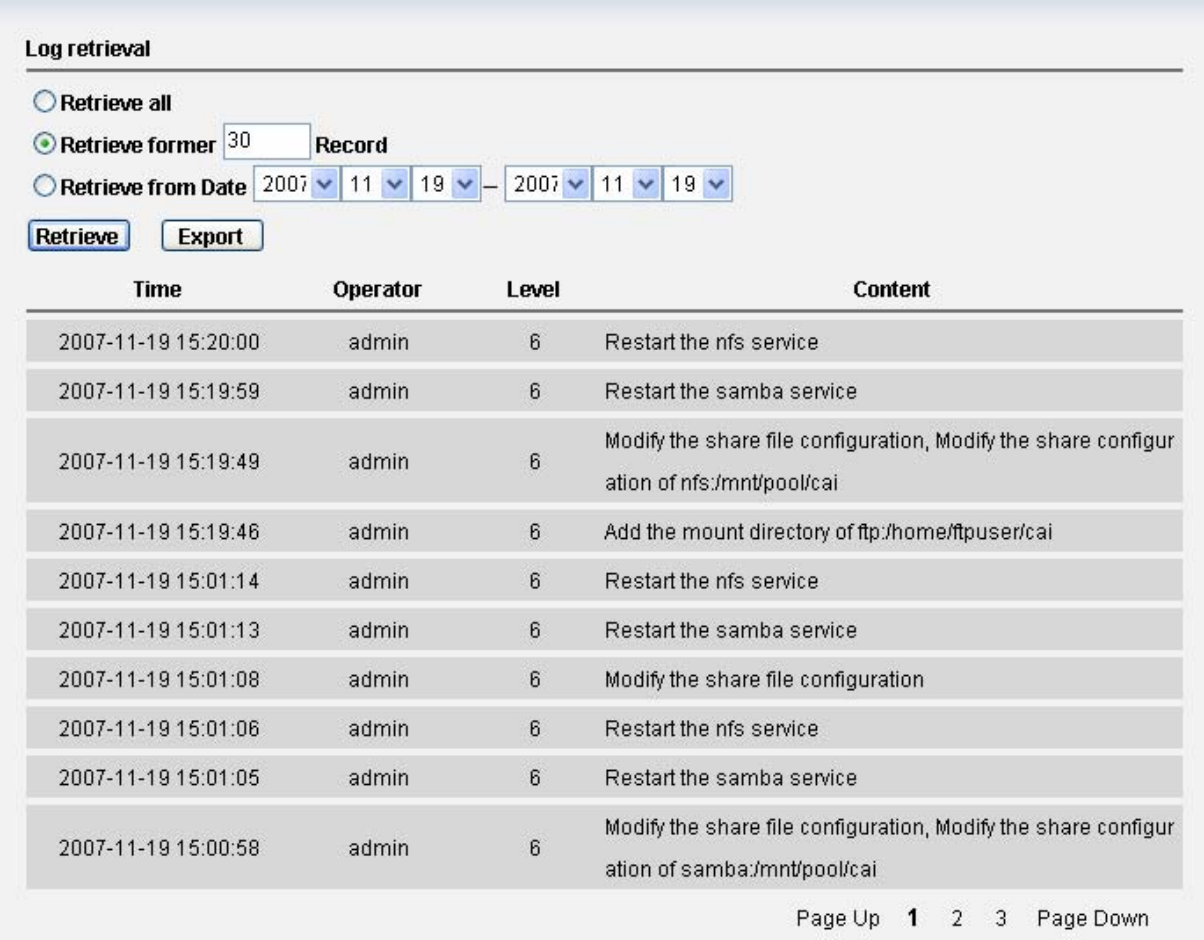

Log retrieval
Retrieve all
Retrieve former 30 Record
Retrieve from Date 2007 11 19 – 2007 11 19
Retrieve
Export
Time
Operator
Level
Content
2007-11-19 15:20:00 admin 6 Restart the nfs service
2007-11-19 15:19:59 admin 6 Restart the samba service
2007-11-19 15:19:49 admin 6 Modify the share file configuration, Modify the share configuration of nfs:/mnt/pool/cai
2007-11-19 15:19:46 admin 6 Add the mount directory of ftp:/home/ftpuser/cai
2007-11-19 15:01:14 admin 6 Restart the nfs service
2007-11-19 15:01:13 admin 6 Restart the samba service
2007-11-19 15:01:08 admin 6 Modify the share file configuration
2007-11-19 15:01:06 admin 6 Restart the nfs service
2007-11-19 15:01:05 admin 6 Restart the samba service
2007-11-19 15:00:58 admin 6 Modify the share file configuration, Modify the share configuration of samba:/mnt/pool/cai
Page Up 1 2 3 Page Down

Figure 3-43

Click export button, system pops up the following interface. See Figure 3-44.
Click save button and specify the path. You can download the logs to your local PC.
Please note administrator can export and review all logs, ordinary user can only review and export the operation logs of his own.
Max log amount is 1000. System will automatically overwrite the previous log files once the log exceeds 1000 items.

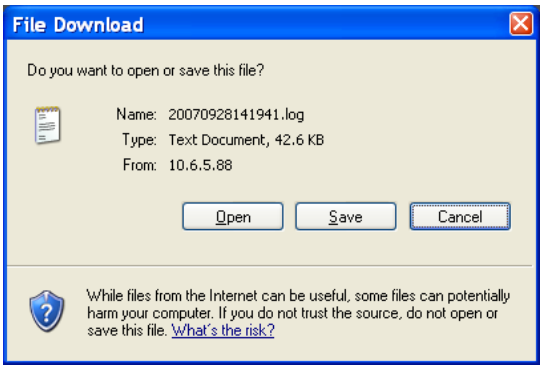
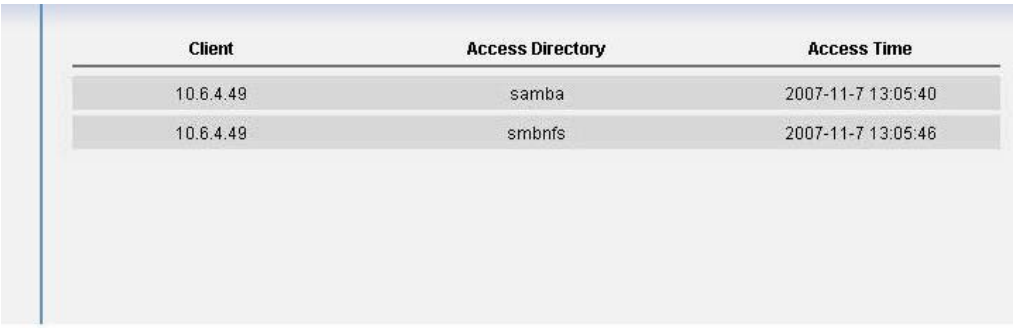

File Download
Do you want to open or save this file?
Name: 20070928141941.log
Type: Text Document, 42.6 KB
From: 10.6.5.88
Open
Save
Cancel
While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not open or save this file. What's the risk?

Figure 3-44

3.7.2 Service Status

Click service status, you can see an interface is shown as in Figure 3-45.

In Figure 3-45, host (IP address 10.6.5.49) is accessing SAMBA share folder. Here you can also see accessing time.



Client	Access Directory	Access Time
10.6.4.49	samba	2007-11-7 13:05:40
10.6.4.49	smbnfs	2007-11-7 13:05:46

Figure 3-45

3.7.3 Resume

Resume interface is shown as in Figure 3-46.

This function allows you to export the configuration file and then send back the file to the engineer to analyze the error reason.

Figure 3-46

3.8 Reboot/Shut down

You can see log out button in any interface. It is on the top right corner. See Figure 3-47.
Click reboot button you can restart the device.
Click shutdown button you can turn off the system.

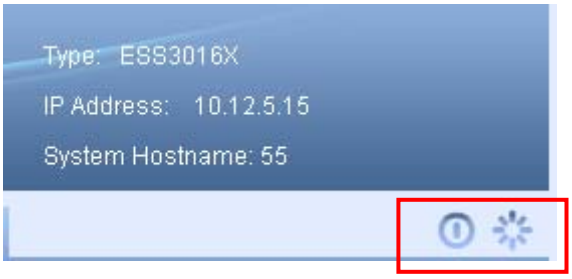


Figure 3-47

4 Create ESS3016X Device NAS Share

This chapter is to help you quickly create SAMBA, NFS and FTP share and provide share service.

4.1 Quickly Create NAS Share Process

Here is a flow chart for SAMBA and NFS share creation.

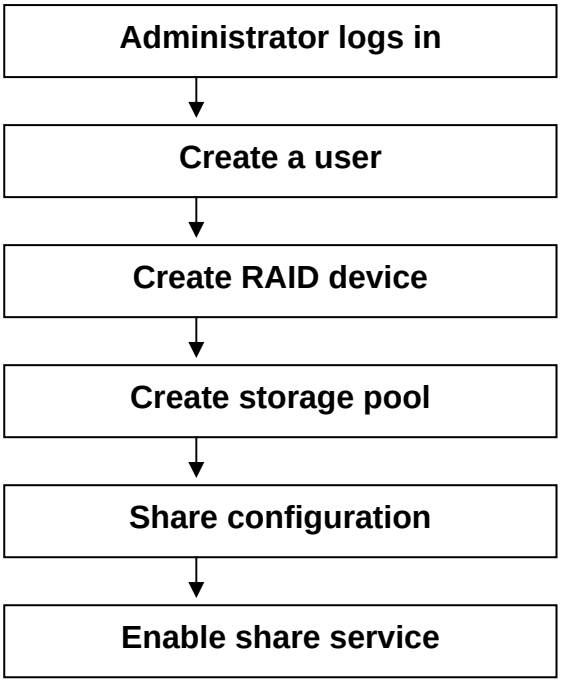


Figure 4-1

4.2 NAS Share Example

4.2.1 SAMBA Share Creation

4.2.1.1 Admin user login

In the log in interface, you can input administrator name and password to log in. See Figure 4-2.

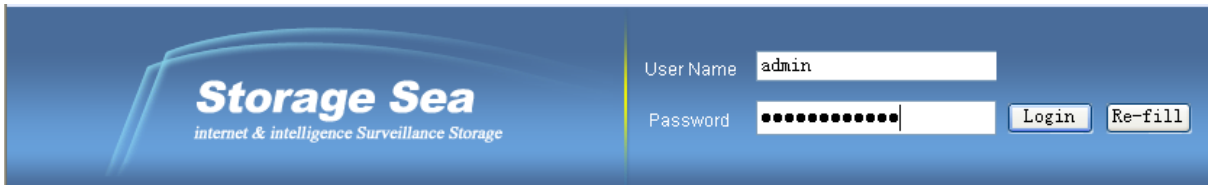


Figure 4-2

Default account is:

- User name: admin.
- Password:88888888888.

From the system management, select user management. See Figure 4-3.

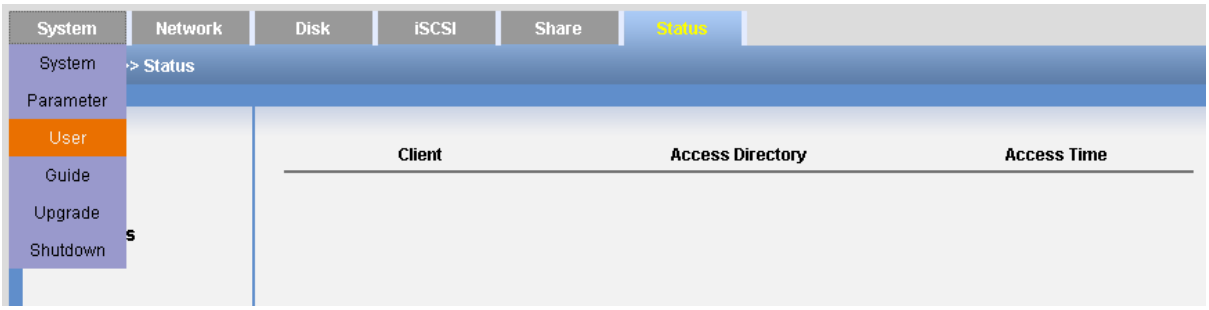


Figure 4-3

And then click add button, you can see an interface is shown as in Figure 4-4.

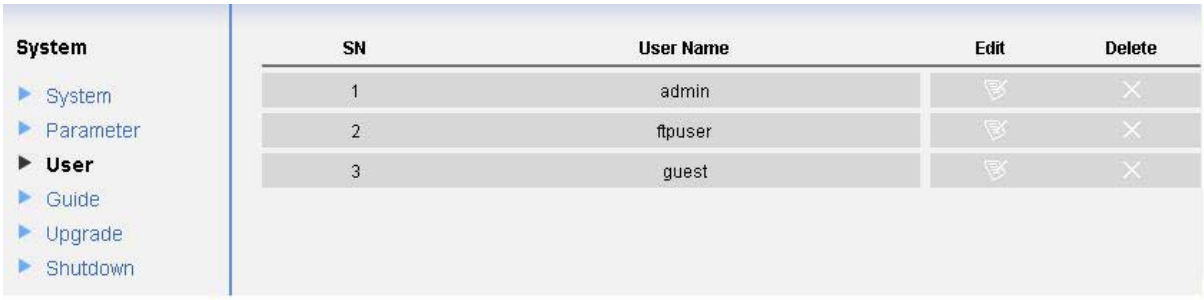


Figure 4-4

Please note, system has three valid accounts:

- admin (system administrator), 8888888888
- guest(ordinary user), 666666666666
- ftpuser(ftp user),111111111111

4.2.1.2 Create system user

Here you can create a user such as user1. See Figure 4-5.

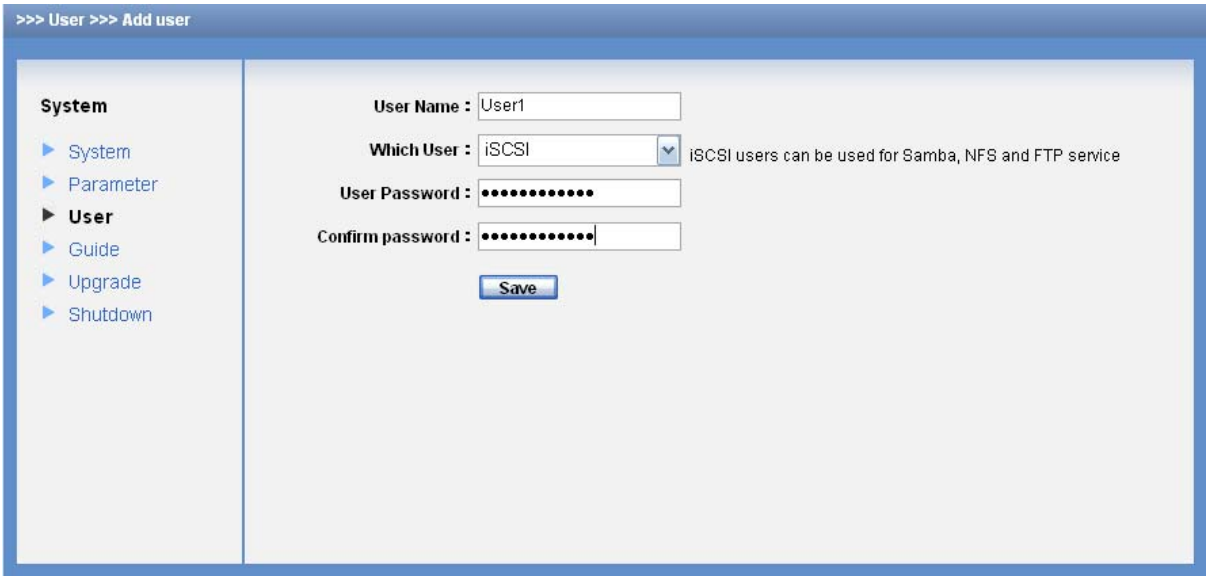


Figure 4-5

4.2.1.3 RAID device configuration (Here we take RAID5 as an example)

From disk management, select RAID configuration. See Figure 4-6.

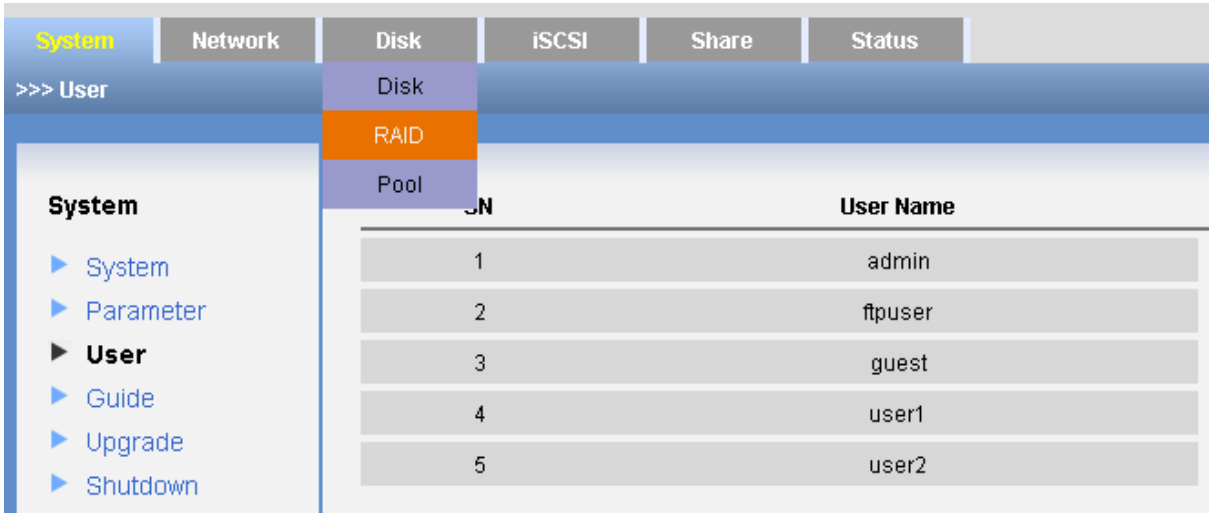


Figure 4-6

And then click add button in Figure 4-7.

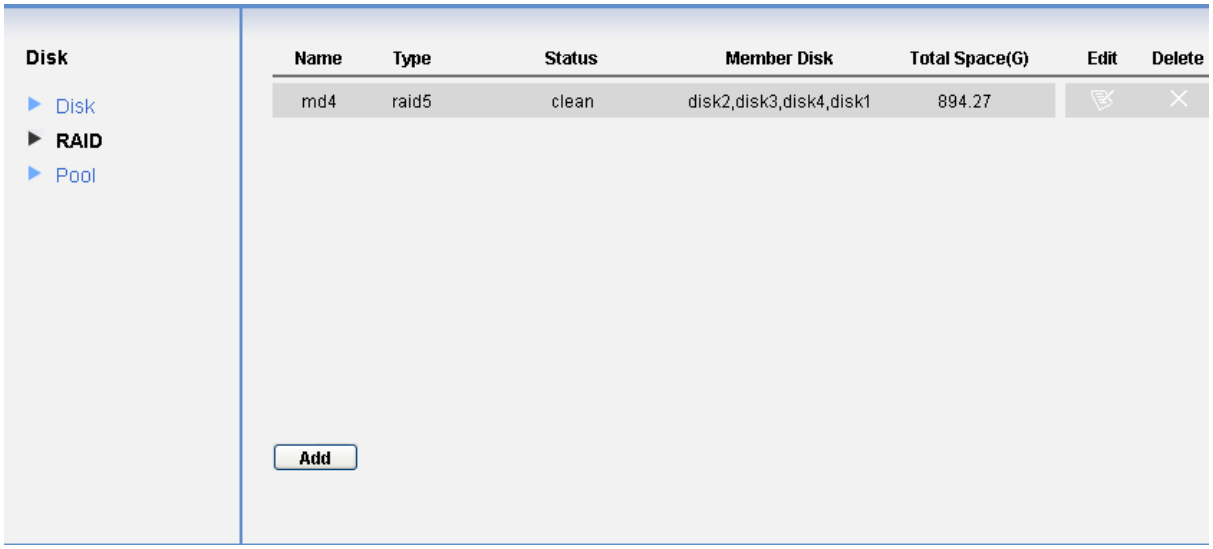


Figure 4-7

You can see an interface is shown as in Figure 4-8.
Here you can select RAID5 device (at least four disks)

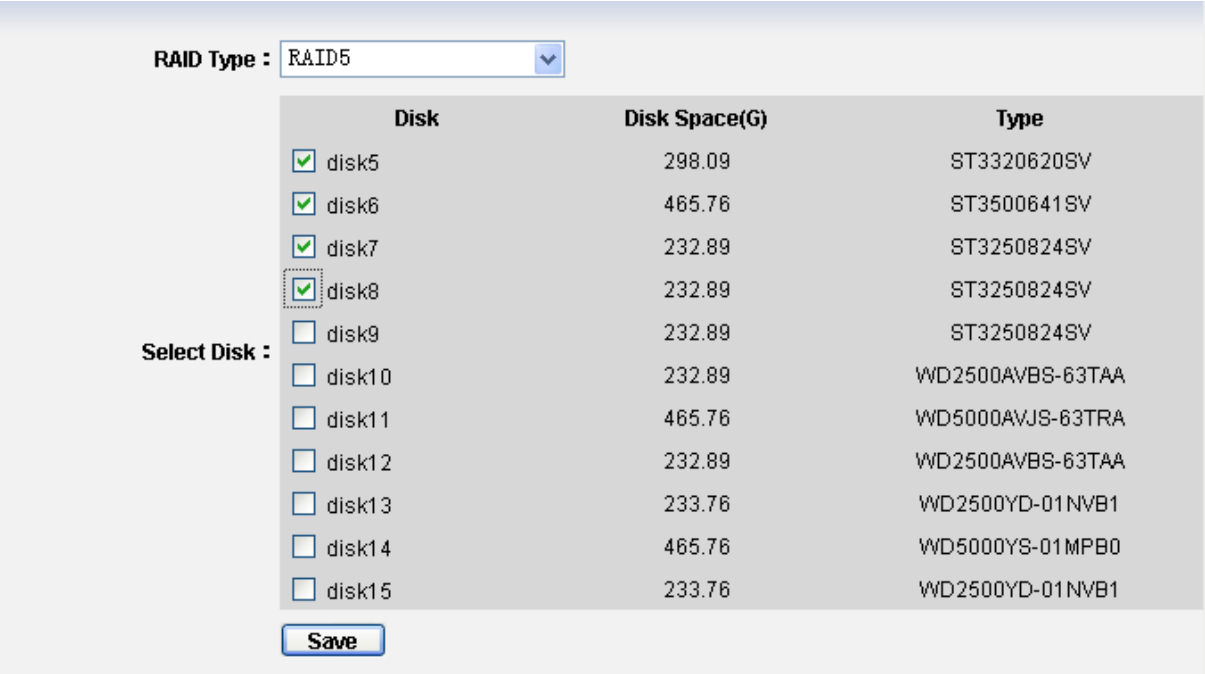


Figure 4-8

Note

Before using devices here, please enable RAID5 device synchronization process.

4.2.1.4 Storage pool configuration

From disk management, select storage pool configuration. See Figure 4-9.

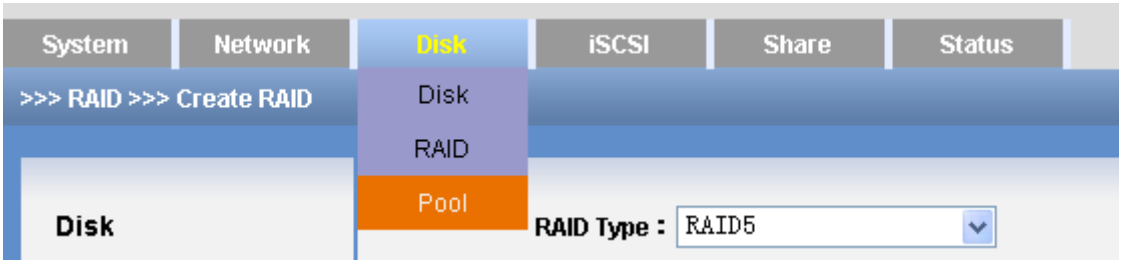


Figure 4-9

Click add button in Figure 4-10.

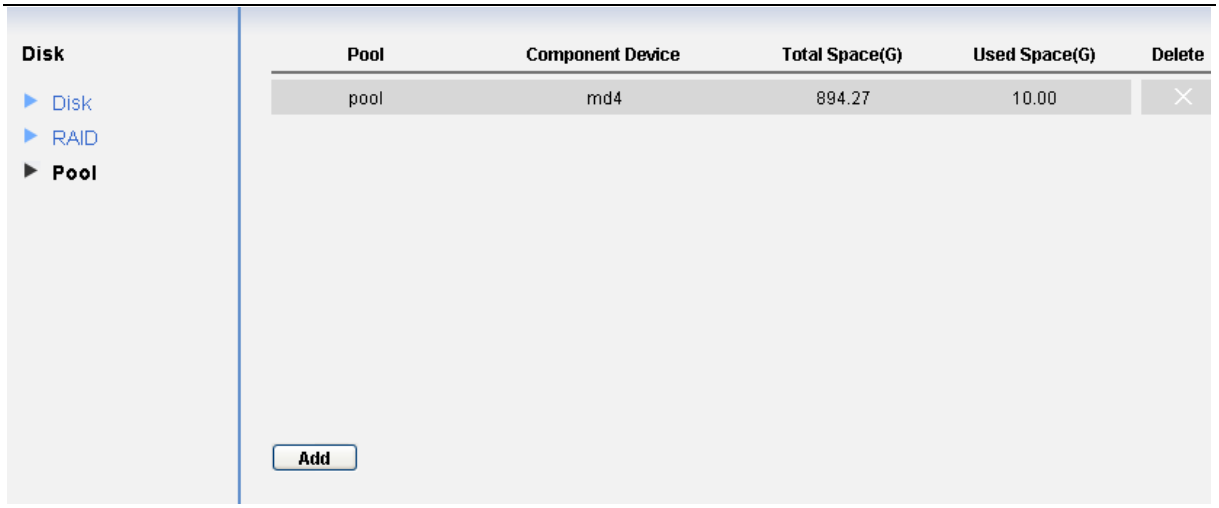


Figure 4-10

Now you can configure storage pool. See Figure 4-11.

Here you can see raid5 device disk15 constitutes storage pool1.

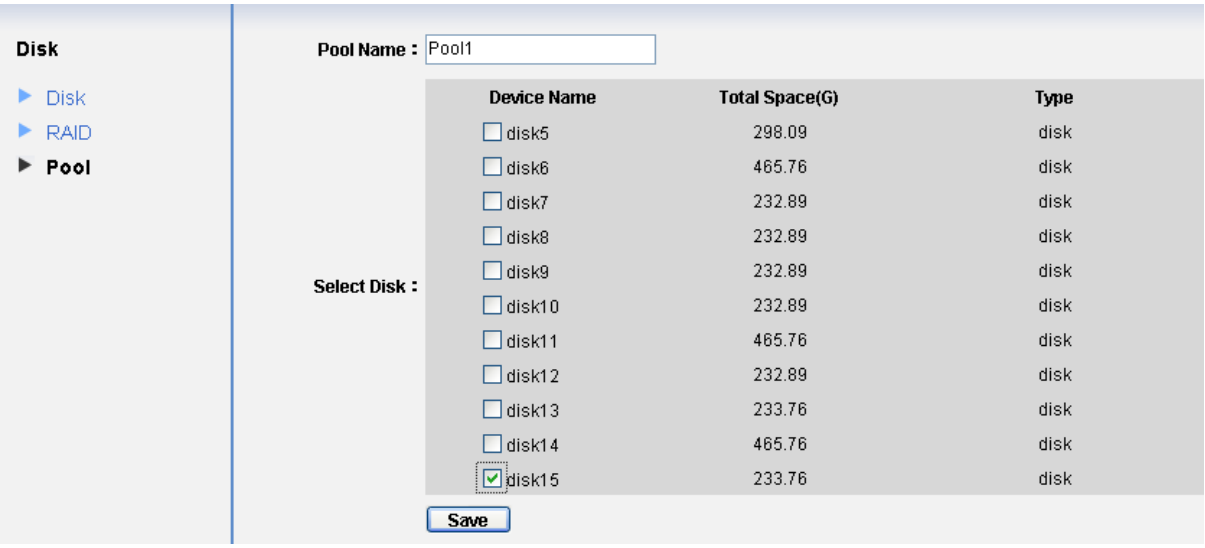


Figure 4-11

4.2.1.5 Share folder configuration

From share management, select share manage. See Figure 4-12.

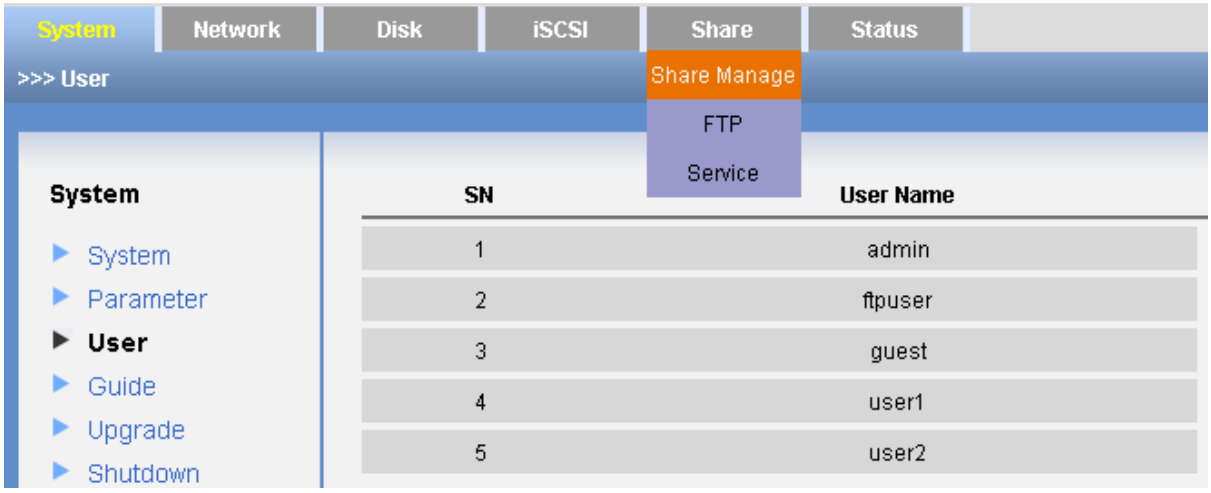


Figure 4-12

And then in Figure 4-13, click add button.

Figure 4-13

In Figure 4-14, please follow the steps below.

- Select one storage pool to create a share folder(such as pool)
- Input SAMBA share folder name.(DVRch6)
- Set share folder total space(100G)
- Input share content description(data from DVR channel 6)
- Select a valid user (such as user1). If there is no valid user, any user can access current share folder.
- Enable SAMBA share service.
- Enable SAMBA read-write right.
- Enable NFS share service.
- Click save button.

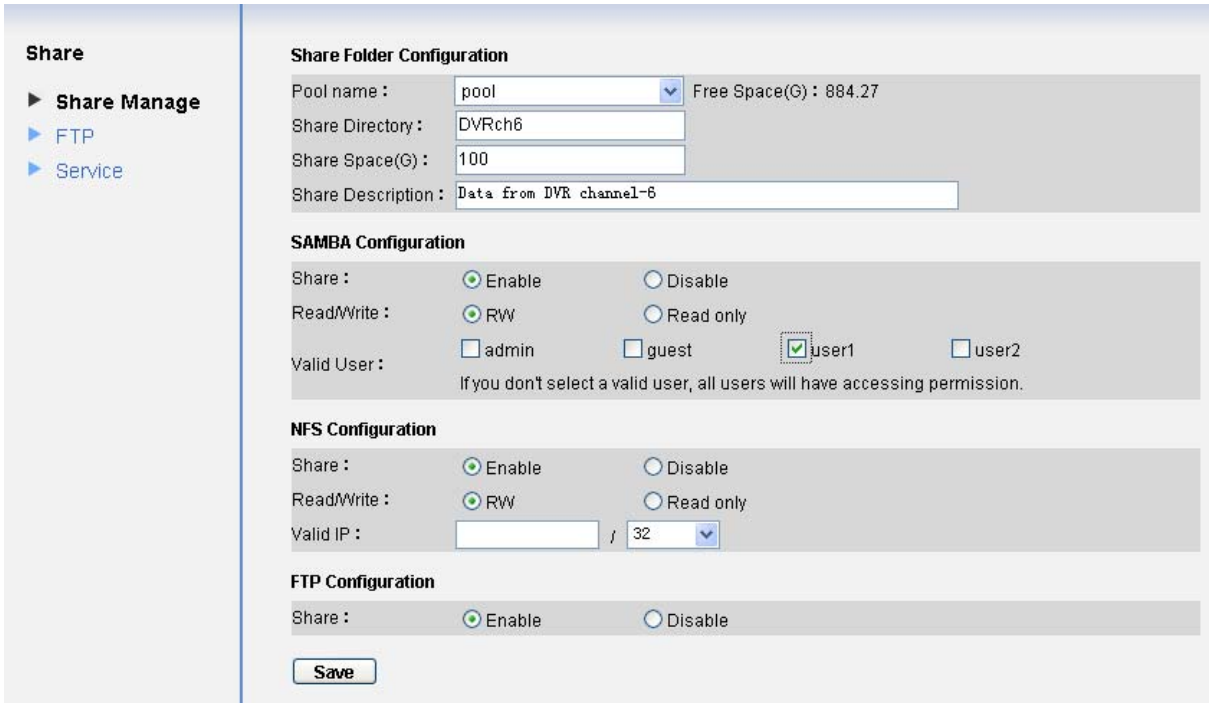

Share
Share Manage
FTP
Service
Share Folder Configuration
Pool name : pool Free Space(G) : 884.27
Share Directory : DVRch6
Share Space(G) : 100
Share Description : Data from DVR channel-6
SAMBA Configuration
Share : Enable Disable
Read/Write : RW Read only
Valid User : admin guest user1 user2
If you don't select a valid user, all users will have accessing permission.
NFS Configuration
Share : Enable Disable
Read/Write : RW Read only
Valid IP : / 32
FTP Configuration
Share : Enable Disable
Save

Figure 4-14

4.2.1.6 Enable share service.

From share to service. In Figure 4-15, you can enable SAMBA service and then click set button.

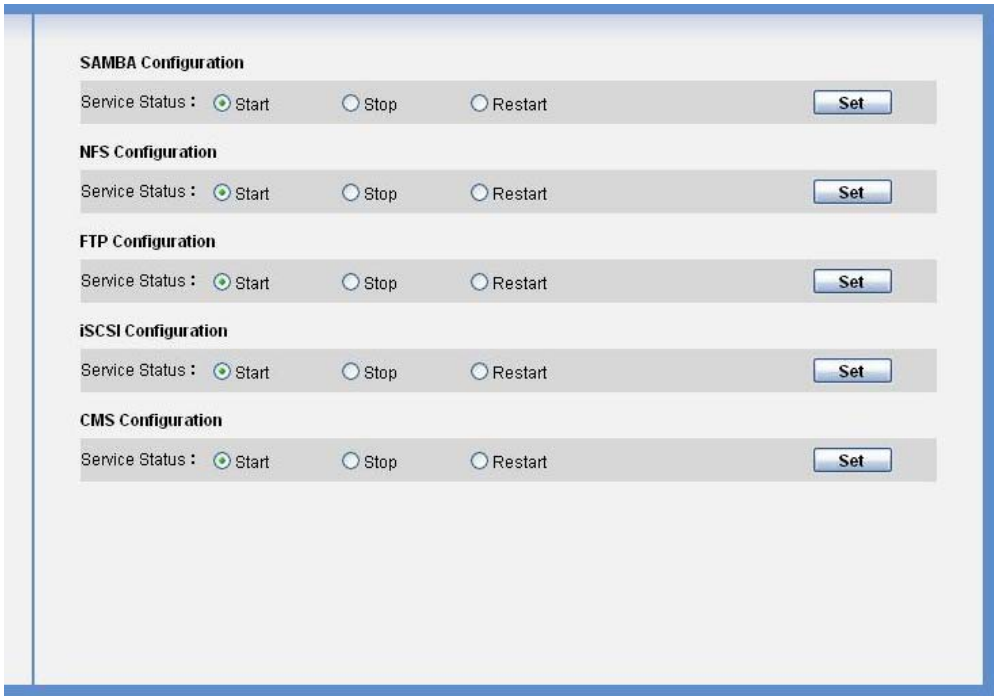

SAMBA Configuration
Service Status : Start Stop Restart Set
NFS Configuration
Service Status : Start Stop Restart Set
FTP Configuration
Service Status : Start Stop Restart Set
iSCSI Configuration
Service Status : Start Stop Restart Set
CMS Configuration
Service Status : Start Stop Restart Set

Figure 4-15

4.2.2 NFS Share Creation

The steps are similar to create SAMBA share. There are some difference in share folder configuration (chapter 4.2.1.5) and enable share service (chapter 4.2.1.6). Here we just introduce NFS share folder configuration.

4.2.2.1 Configure NFS share folder.

The interface is shown as in Figure 4-16.

Here you can set the following items:

- From the dropdown list, select one storage pool to create share folder(such as pool)
- Input NFS share folder name.(DVRch7)
- Set share folder total space.(100G)
- Input share description(storage data from DVR channel 7)
- Disable SAMBA share.
- Enable NFS share
- Set NFS read-write rights.
- Valid IP setup.
- Click save button. In Figure 4-16, 10.6.0.0 means the Linux users of IP addresses ranging from 10.6.0.0 to 10.6.255.255 can access current NFS share folder. 16 is a way to represent subnet mask, it stands for 255.255.0.0.

Note: If you have created RAID device and storage pool, you can directly create SAMBA or NFS share folder.

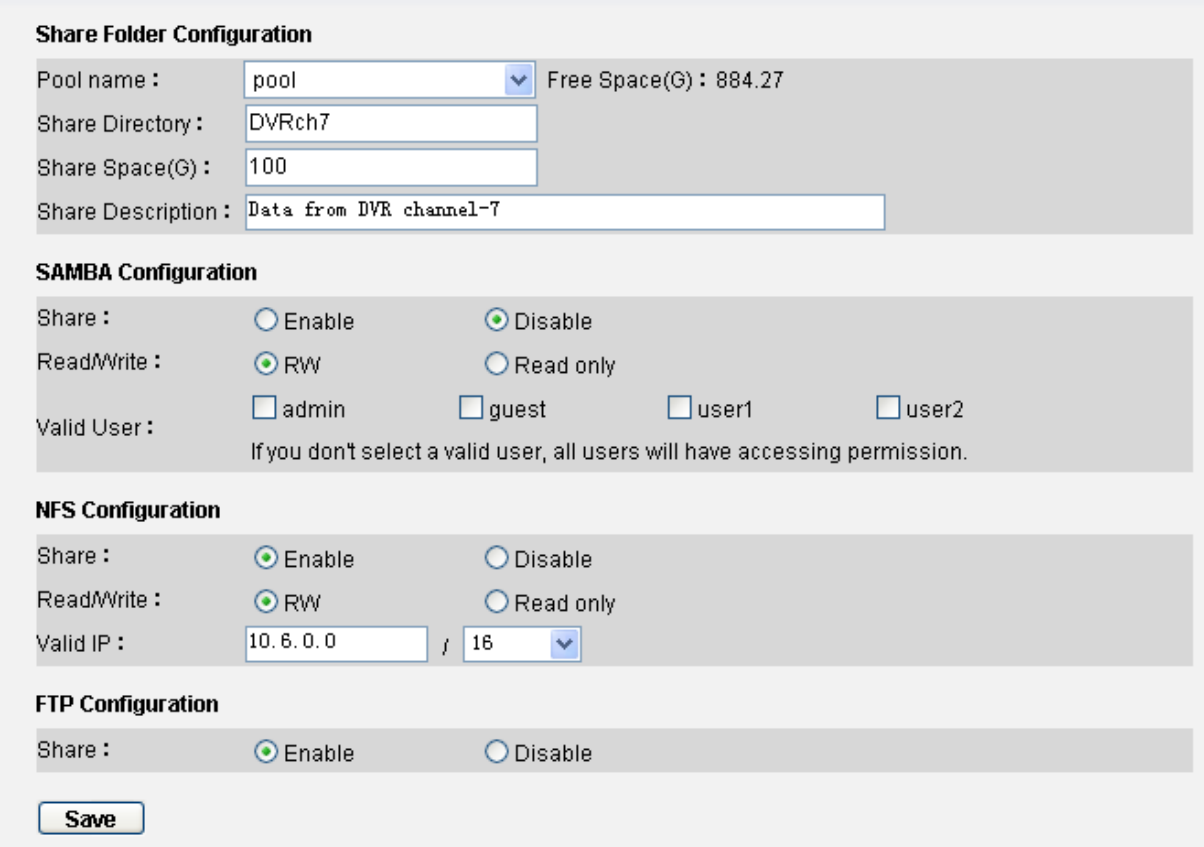


Figure 4-16

4.2.3 FTP Share Creation

From the above processes, you can see FTP share creation steps are difference from SAMBA share creation and NFS share creation. There is no need for you to create a user, because there is only one FTP user (ftpuser). Its user name is ftpuser and password is 111111111111. For security reasons, please modify your password after you first log in.
Here we'd like to talk about the step four (share configuration) and the step five (FTP configuration). See Figure 4-17.

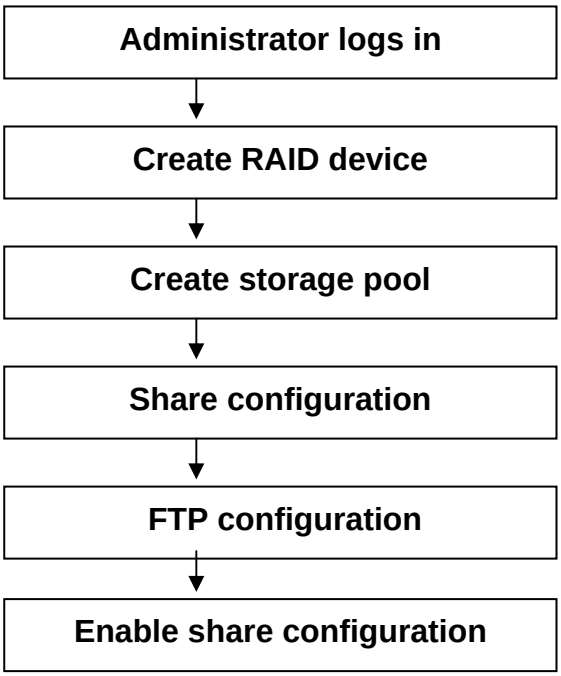


Figure 4-17

- **FTP share folder configuration**

In Figure 4-18, you need to configure the following information.
1).From the dropdown list, select the pool name such as pool.
2).Input share directory such as DVRch7.
3).Set share space such as 50G.
4).You can input description information such as data from DVR channel-7. (It is an optional item. You can leave it in blank.)
5).Disable SAMBA service.
6).Disable NFS service.
7).Enable FTP service.
8).Click save button.

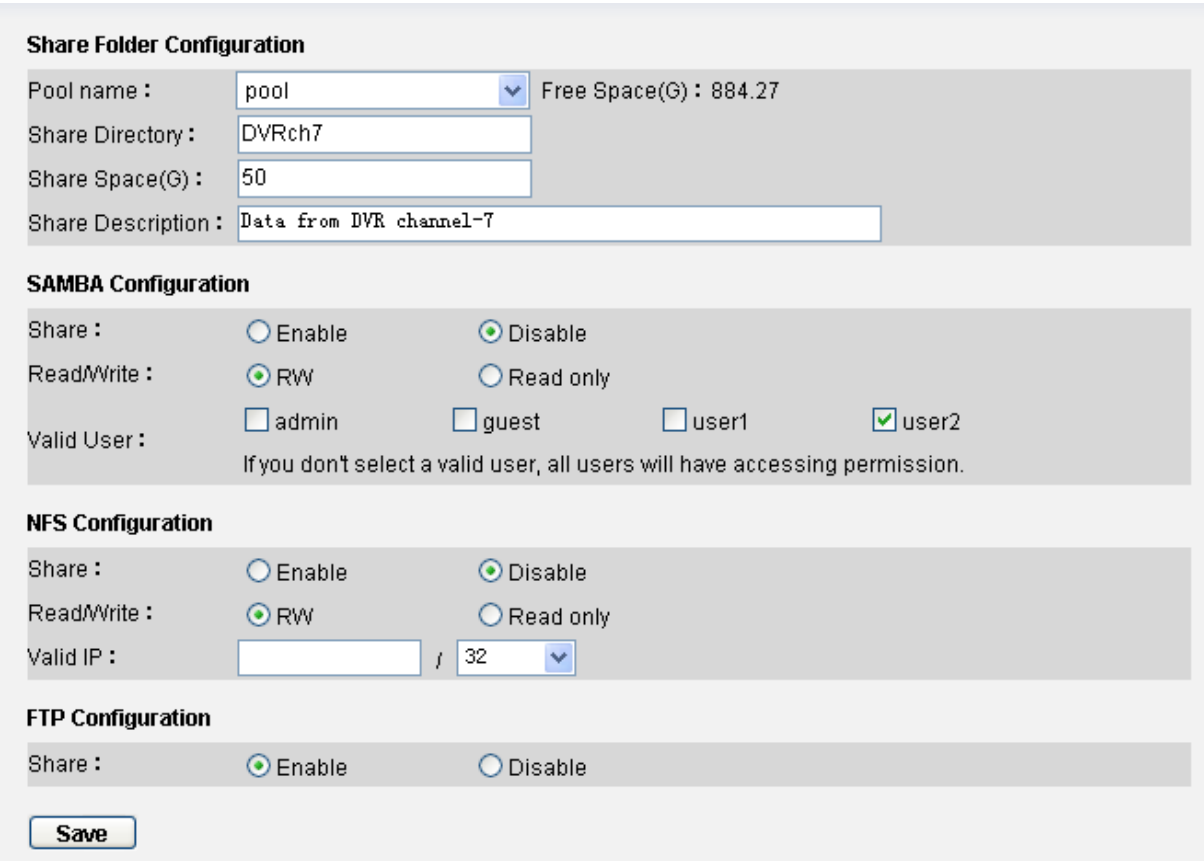


Figure 4-18

- **FTP configuration**

In Figure 4-19, you need to set transmission speed, connection amount of each IP and total connection amount.

Note:

IF there is created RAID device and storage pool, you can create SAMBA, NFS and FTP share folder directly.

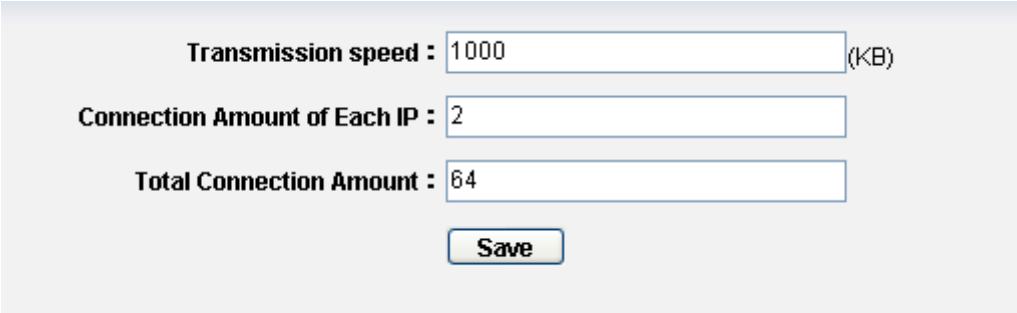


Figure 4-19

5 Quickly Create ESS3016X Device iSCSI Share

5.1 Quickly Create ISCSI Share Process

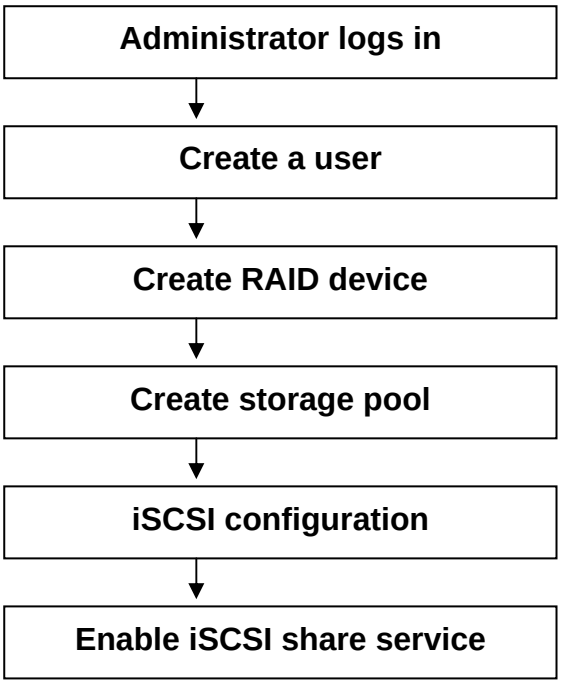


Figure 5-1

5.2 iSCSI Share Example

From the above processes, you can see the first four steps are identical with SAMBA share of NAS share creation processes and the sixth step is also similar. Here we just talk about the step five.

iSCSi configuration

From iSCSI configuration, select iSCSI configuration. See Figure 5-2.

Figure 5-2

In Figure 5-3, click add button.

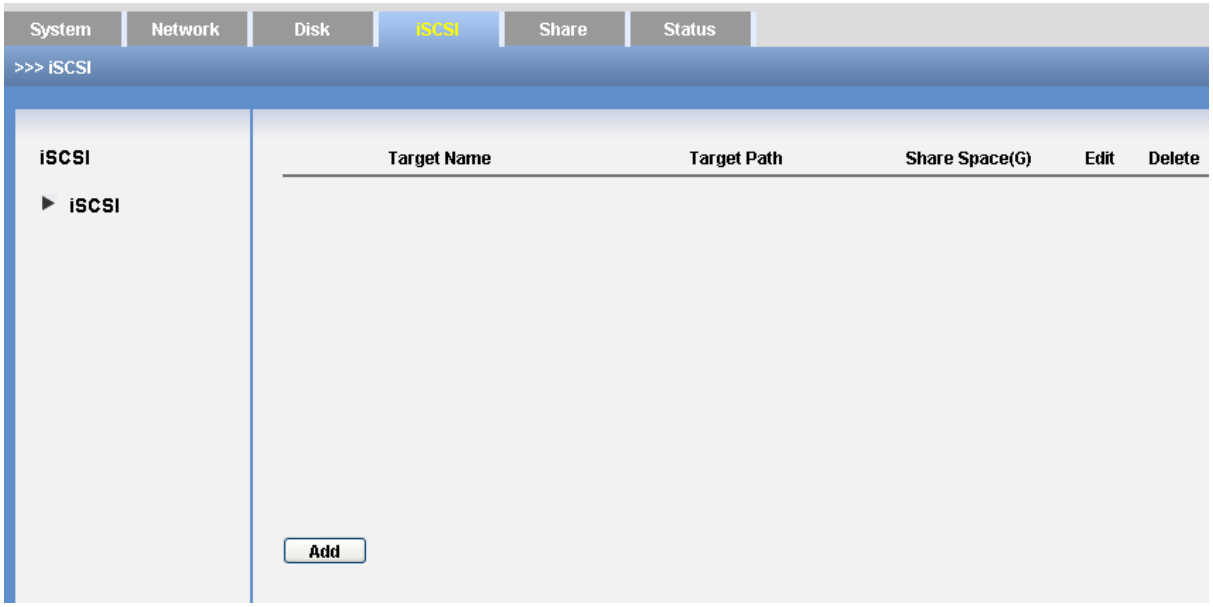


Figure 5-3

In Figure 5-4, you can set the following items:

- Input iSCSI share device name(DVRch4)
- Set iSCSI total space (200G)
- Select one storage pool to create iSCSI share device(Pool).
- Select valid user for iSCSI share device. If you do not check a valid user here. In the future when you load iSCSI share device, you do not need to input user name and password.
- Click save button.

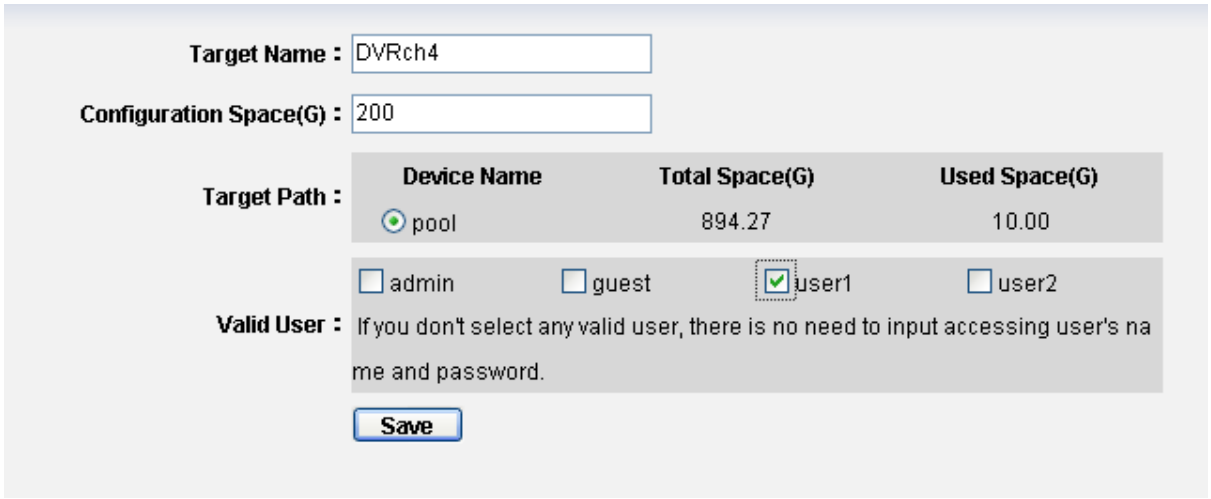


Figure 5-4

6 ESS3015A

Unlike those internet intelligent storage devices such as ESS3016X, ESS3015A applies to extend network intelligent storage capacity.

6.1 ESS3015A—ESS3016X

Disk rack connects to HBA via miniSAS cable. HBA connects to ESS3016X internet intelligent storage device via PCI or PCI-X slot. You can refer to Figure 6-1.

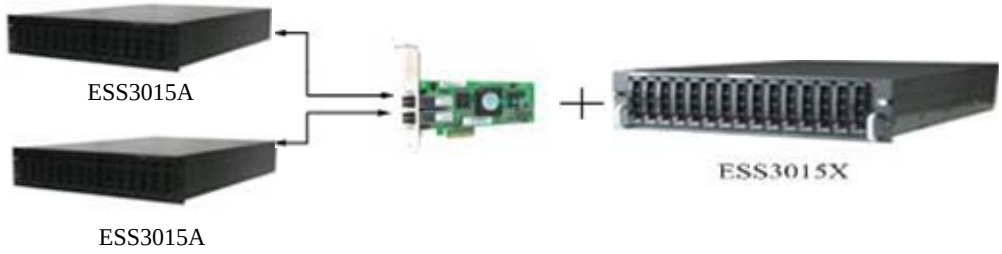


Figure 6-1

One ESS3016X device can connect to two HBA and one HBA can connect to two ESS3015A devices. One ESS3015A can install 15 SATA disks. So ESS3015A device can effectively extend ESS3016X internet intelligent storage device capacity.

In this chapter, we talk about how to extend ESS3016X internet intelligent storage device. Though ESS3015A (disk enclosure) is an extensible device, but for ESS3016X device, it just adds some available disks in the system. The Web operation and share application is the same as ESS3016X. Here we merely talk about the difference.

Please note ESS3016X-A COM debug operation is the same as ESS3016X. Please refer to appendix E.

6.1.1 Disk Management

From disk management to disk management, you can see an interface is shown as in Figure 6-2. Here you can see there are five buttons. Host and expand 1/2/3/4. It shows current ESS3016X connects to four disk enclosure s.
When you go to disk information interface, system just shows host rack information by default. You can click expand rack button to view corresponding information.

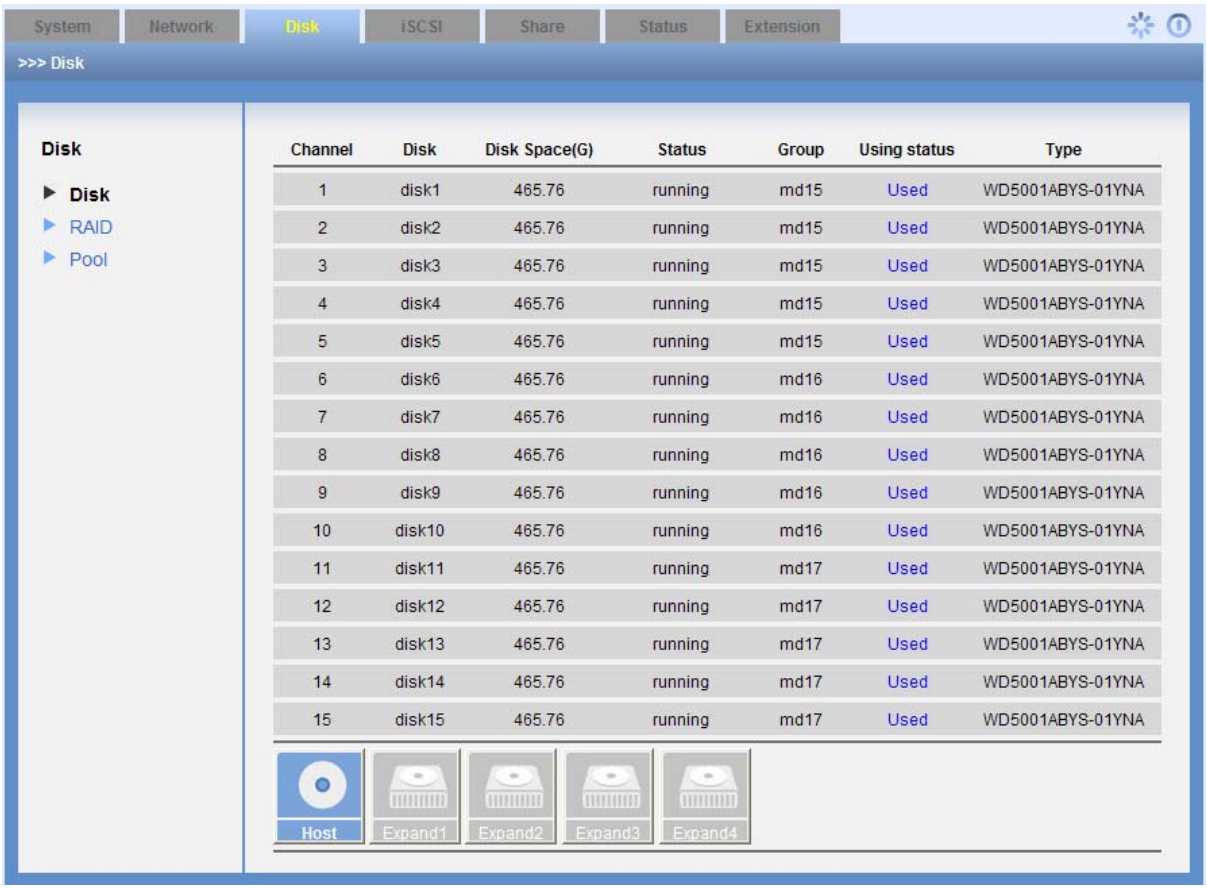

System
Network
Disk
iSCSI
Share
Status
Extension
>>> Disk
Disk
Disk
RAID
Pool
Channel Disk Disk Space(G) Status Group Using status Type
1 disk1 465.76 running md15 Used WD5001ABYS-01YNA
2 disk2 465.76 running md15 Used WD5001ABYS-01YNA
3 disk3 465.76 running md15 Used WD5001ABYS-01YNA
4 disk4 465.76 running md15 Used WD5001ABYS-01YNA
5 disk5 465.76 running md15 Used WD5001ABYS-01YNA
6 disk6 465.76 running md16 Used WD5001ABYS-01YNA
7 disk7 465.76 running md16 Used WD5001ABYS-01YNA
8 disk8 465.76 running md16 Used WD5001ABYS-01YNA
9 disk9 465.76 running md16 Used WD5001ABYS-01YNA
10 disk10 465.76 running md16 Used WD5001ABYS-01YNA
11 disk11 465.76 running md17 Used WD5001ABYS-01YNA
12 disk12 465.76 running md17 Used WD5001ABYS-01YNA
13 disk13 465.76 running md17 Used WD5001ABYS-01YNA
14 disk14 465.76 running md17 Used WD5001ABYS-01YNA
15 disk15 465.76 running md17 Used WD5001ABYS-01YNA
Host
Expand1
Expand2
Expand3
Expand4

Figure 6-2

6.1.2 RAID Setup

From disk management to RAID setup, you can see an interface is shown as in Figure 6-3. System displays host rack RAID configuration information by default. You can click expand disk rack button to view corresponding information.

Please note, though sometimes user interface just shows there is only disk rack1, you can not say there is only one disk rack connects to current ESS3016X. If you have not created RAID device in disk rack 2, system just shows there is one host rack and one expand rack1.

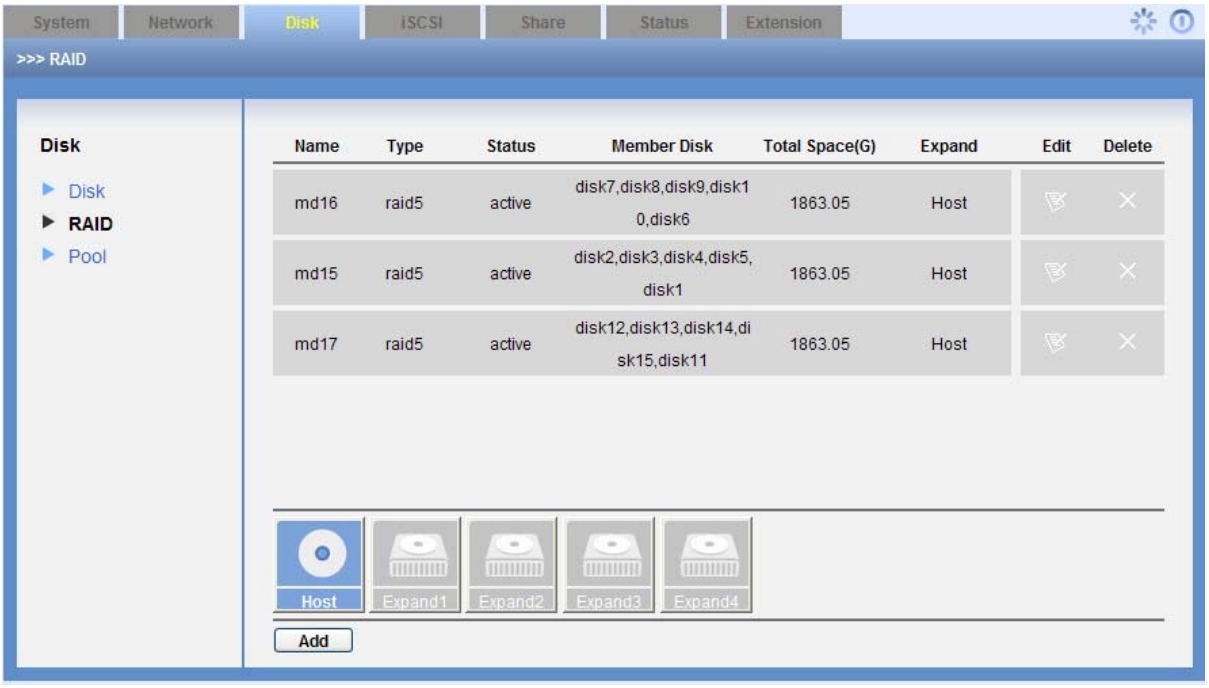


Figure 6-3

- **Add RAID Setup**

In Figure 6-3, click add button, you can see an interface is shown as in Figure 6-4.
Here you can select RAID type (RAID0, RAID1, and RAID5), disk rack number (host, expand1/2/3/4) and then select disks to create a RAID device.
In this interface you can just see all the available disks, those used or malfunction disks will not be displayed,.
Click save button after you complete adding RAID device operation.

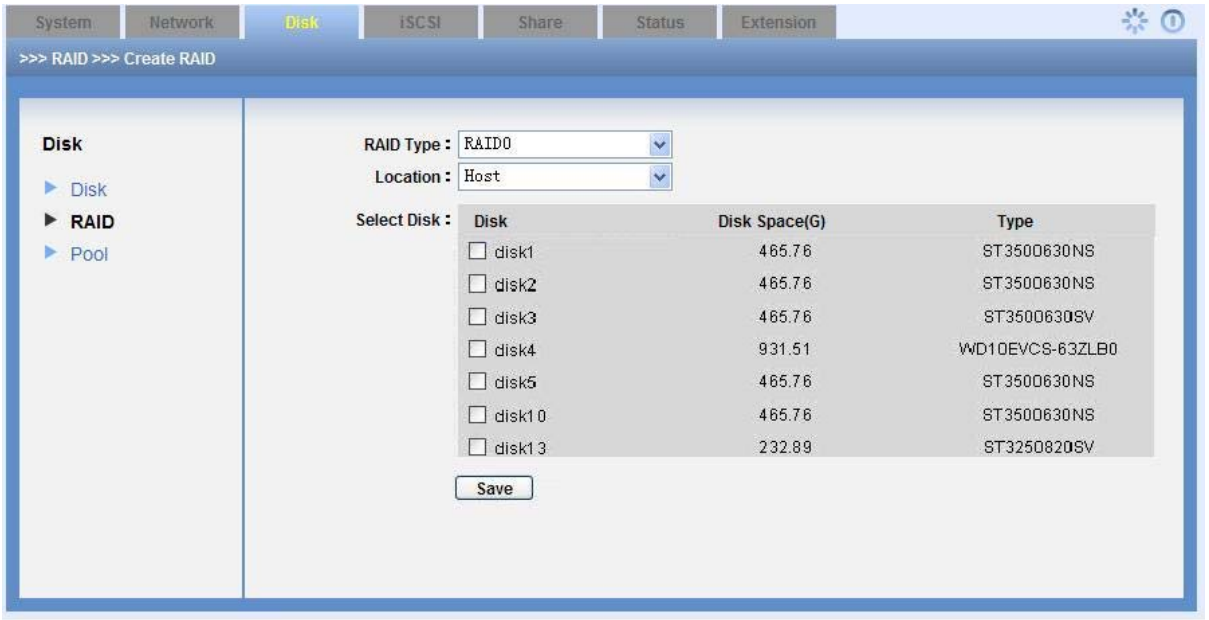


Figure 6-4

6.2 iSCSI Management

6.2.1 iSCSI Setup

From iSCSI management to iSCSI setup, you can see an interface is shown as below. See Figure 6-5.

Here you can see there are five iSCSI share devices to provide iSCSI share service. One is in host rack and others are in expanding rack1/2/3/4 respectively.

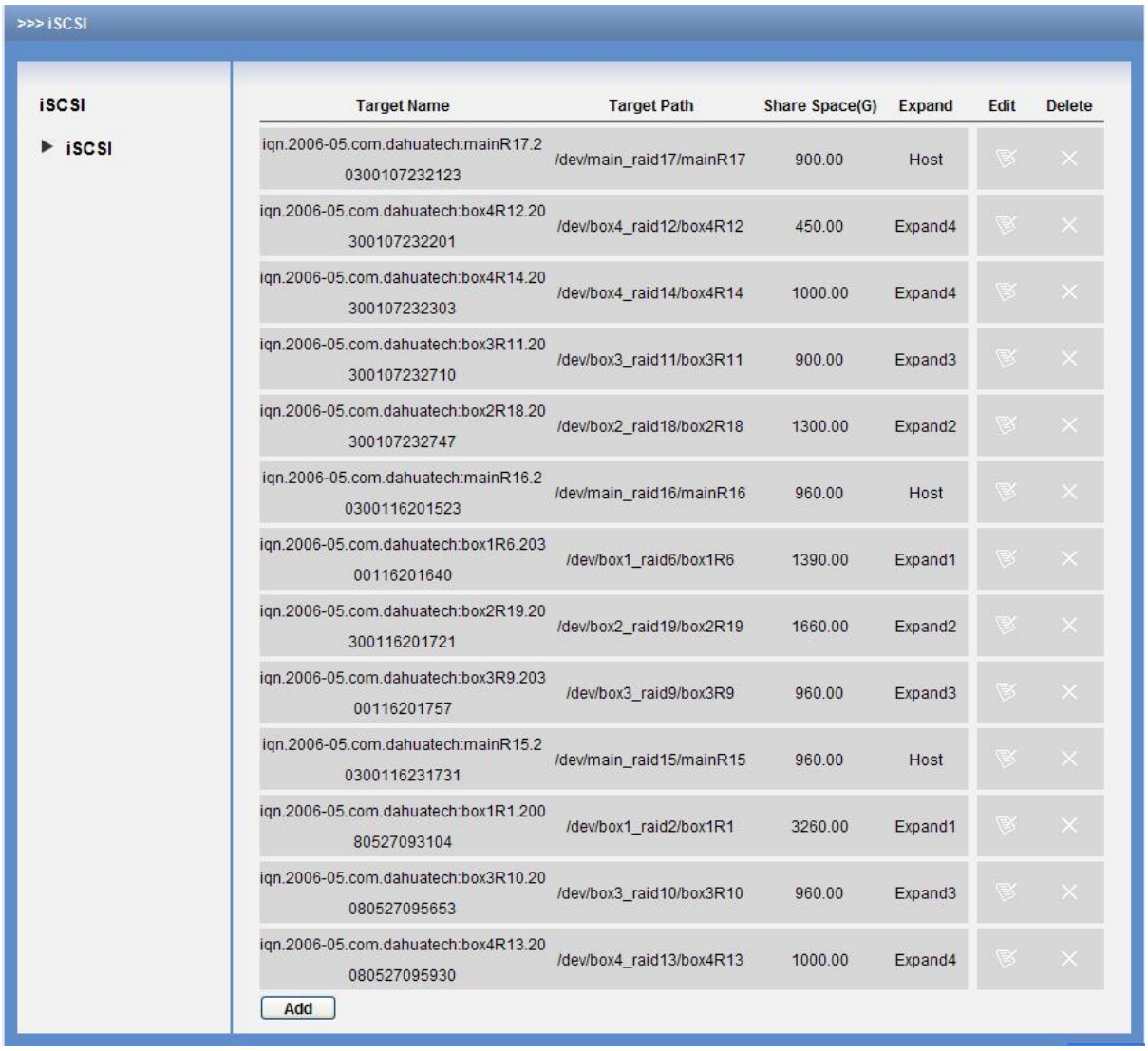


Figure 6-5

- **Add iSCSI Share Setup**

Before you create iSCSI share setup, you need to create a storage pool first!

In Figure 6-5, click add button, you can see an interface is shown as below. See Figure 6-6.

Here you need to input the following five items:

- Target name
- Configuration space (G)
- Location: You can select from the dropdown list.
- Target path: You can select from the following options.
- Valid user : there are two situations:

- ✧ There is valid user: You can select either of them or both of them. The next time when you load iSCSI share, you need to input account name and password. If you have enabled two users, you just input either of them to log in.
- ✧ There is no valid user: you do not need to input account name and password if you have not selected a valid user here.

In Figure 6-6, you can see the following information.
You are going to create an iSCSi share device, its name is test.
This iSCSI share device total capacity is 60G.
Select host, system map all storage pool in host rack.
This iSCSI share device is created in host and its storage pool name is main_raid17. This storage pool capacity is 1863.04G and used capacity is 900G.
There is no effective user in iSCSI device.

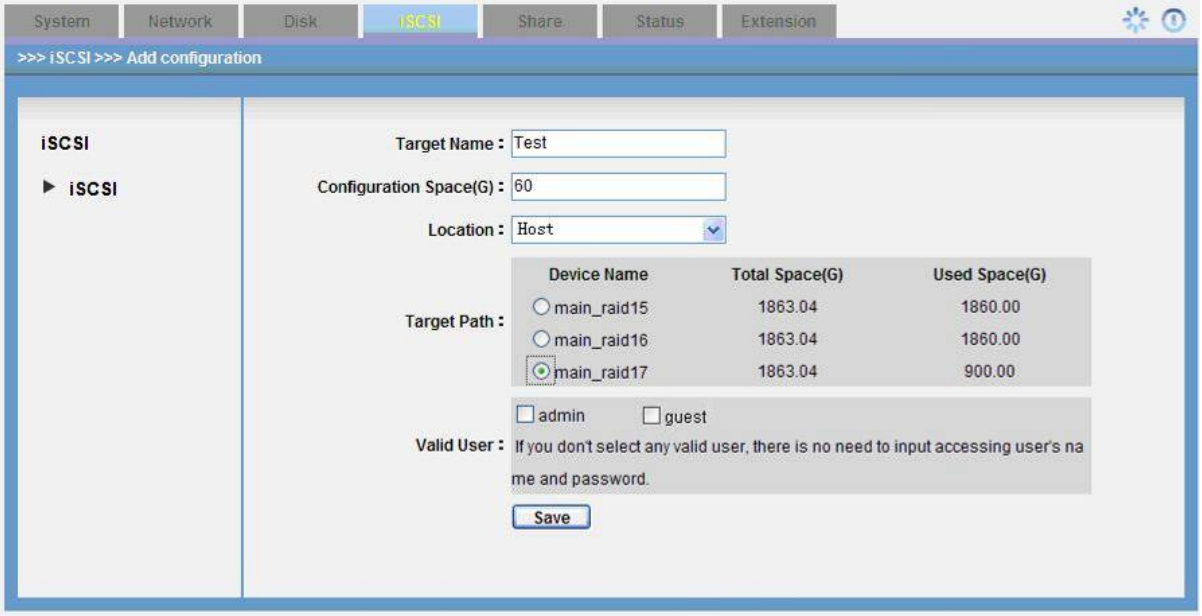


Figure 6-6

6.2.2 Share Management

6.2.2.1 Share Setup

From share management to share manage, you can see an interface is shown as in Figure 6-7. Here you can view SAMBA, NFS and FTP share information. Here you can go to SAMBA share operation, and you can also use this item to add share folder, edit share folder and delete share folder.

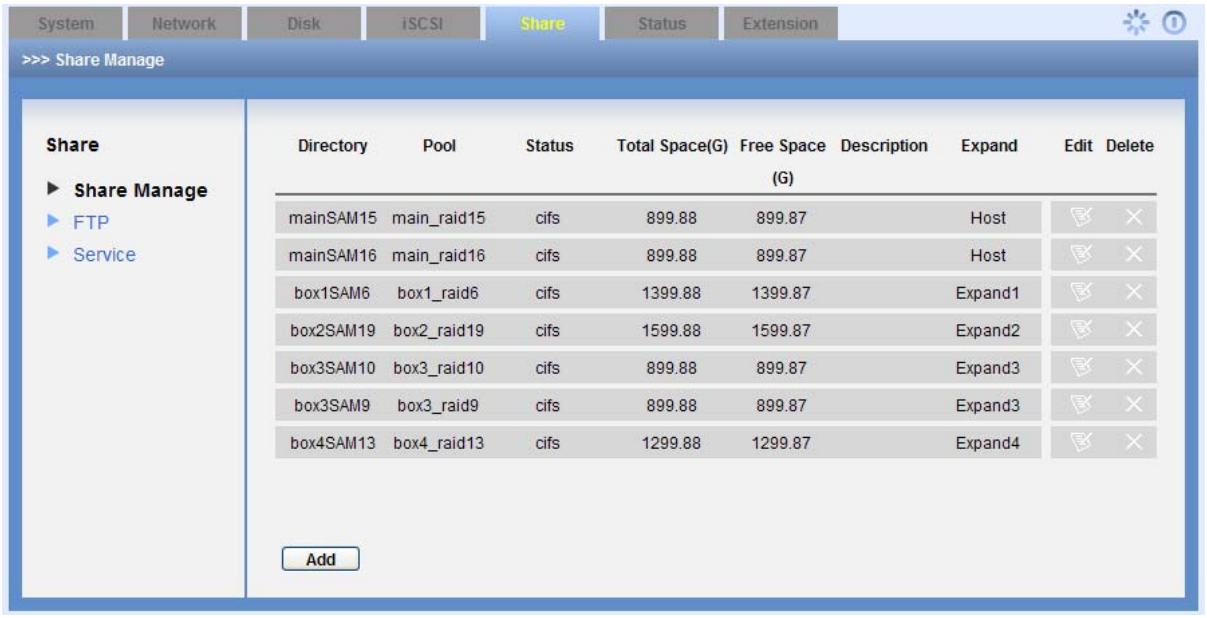

System
Network
Disk
iSCSI
Share
Status
Extension
>>> Share Manage
Share
Share Manage
FTP
Service
Directory
Pool
Status
Total Space(G)
Free Space (G)
Description
Expand
Edit
Delete
mainSAM15 main_raid15 cifs 899.88 899.87 Host
mainSAM16 main_raid16 cifs 899.88 899.87 Host
box1SAM6 box1_raid6 cifs 1399.88 1399.87 Expand1
box2SAM19 box2_raid19 cifs 1599.88 1599.87 Expand2
box3SAM10 box3_raid10 cifs 899.88 899.87 Expand3
box3SAM9 box3_raid9 cifs 899.88 899.87 Expand3
box4SAM13 box4_raid13 cifs 1299.88 1299.87 Expand4
Add

Figure 6-7

7 Appendix A ---Terms Explanation

Here are some terms explanations in this user's manual.

- NAS: It is the abbreviation for network attached system. It provides user file service via network.
- SATA:It is the abbreviation for serial ATA. In current released Serial ATA 2.0, data transmission speed can reach 300MB/second.
- SATA HDD: HDD adopts SATA standard. Some leading manufacturers such as Seagate, Hitachi have already released SATA HDD.
- RAID: It is the abbreviation for redundant array of independent disks. It is to combine several independent HDDs (physical HDD) to form a HDD group (logic HDD) to provide more storage capacity and data redundancy. Now it consists of seven levels, ranging from RAID0 to RAID6.Besided, it has some basic RAID combination groups such as RAID10 (RAID0 and RAID1, RAID 50(RAID 0 and RAID 5). Here is a comparison between RAID 0, RAID 1, RAID 5. In this manual, we call RAID5, RAID 1,RAID0 as RAID5 device, RAID1 device and RAID 0 device respectively.
- RAID0: RAID0 is so called Striped Disk Array without Fault Tolerance. It represents the highest storage performance in RAID level. RAID0 is to read-write continue data in several HDD. So, system data query will be performed in several HDDs at the same time.
- RAID1: It is also called Mirror or mirroring. Its aim is to maximally guarantee data safety and restorable. RAID1 is to automatically copy user input data fully to other RAID1 HDDs.
- RAID 5: RAID5 does not backup the storage data. Instead, it will memorize data and corresponding verification information to HDDs of RAID5. The data and verification information will be backed up in different HDDs respectively. When data in one of the HDDs is damaged, system can use the rest data and corresponding verification information to restore the lost data.

RAID	Advantage	Disadvantage	Min HDD Amount	Applied zone
RAID 0	● High read-write efficiency. ● No verification to occupy CPU resources. ● Easy to design, use and configure	● No verification or restore function. ● No data error tolerance. ● Not suitable for harsh environment.	2	Create and edit video
RAID 1	● Theoretically ● , it has double speed. ● 100% data redundancy function. ● Easy to design, use and configure.	● Low HDD use efficient. ● High storage cost. ● In soft RAID1 mode, performance descends gravely.	2	● Financing statistics and data base financing system. ● Need high maintenance work.

RAID 5	● High read transmission speed. ● Medium write speed, ● Considerable low ECC HDD data occupation.	● HDD error will affect the input and output speed. ● The controller design is a little bit difficult.	4	● File and application server, database server.

- Synchronization: After creating RAID 1or RAID5, before using, system needs to read-write the HDD at a fixed speed and adopts an algorithm to calculate. This process is so called synchronization. During the synchronization, system performance speed is very low.
- Storage pool: it is a virtual logic device. It can consist of several HDDs and RAID group. It is a main way to realized virtual storage.
- Share folder: Local PC access the top path of the share storage space. You can create, remove, authenticate and set valid user at the storage device. User is only allowed to operate folder and file performance in the under-layer. According to different share protocols, it can be divided into SAMBA share folder, NFS share folder and FTP share folder.
- SAMBA: it is MS network communication protocol software suitable for UNIX. Its core is SMB (server message block) protocol. SMB is a client /server protocol. User can access share file system, printer and other resources in the server via this protocol.
- NFS: It is an abbreviation for network file system. It is a distribution file system. It can allow the local PC to use the file or peripheral devices of another PC. It is mainly used in UNIX platform.
- iSCSI: It is a abbreviation for internet small computer system interface. It is an internet protocol standard in Ethernet. It is an SCSI instruction set for hardware to be used in IP protocol layer. Generally y speaking, iSCSI can realize SCSI protocol in the IP network to realize router option in high-speed 1000M Ethernet.
- FTP: It is an abbreviation for file transfer protocol. It is a protocol of the TCP/IP protocol group. It is to transfer file from one PC to another while it has no relationship with PC OS, location and connection type.
- CIFS: It is an abbreviation for Common Internet File System. CIFS is an open and cross-platform running mechanism for the user to ask for file or print service from the server. It is a standard server message block (SMB) protocol widely used in personnel PC and work station
- Management status: It is a device status when controller configure device via web. Actually, when there is no error or damage, device shall be always in management status.
- Working status: It is a device status when controller access HDD via network. System is ready to use after you configure correctly in accordance with this user's manual. Some non-device error (such as configuration error, hot swap error) may result in device failure. You can configure again to boot up the device. But data loss may occur during this process.

8 Appendix B--- Disk Hot Swap Operation

Note: please implement 3016X internet intelligent storage device when RAID is in working status.

Hot swap only be operated when RAID is in working status, otherwise it may result in data loss in RAID device!

- **Ready status:** It only applies to RAID1/RAID5, e.g these disk groups are in RAID synchronization. When disk group are in ready status, in the web configuration interface, from disk management to RAID configuration, you can see the corresponding RAID group status is "clean，degraded，recovering".

- **Working status:** it only applies to RAID1/RAID5. It is a RAID status after synchronization. When disk group are in ready status, in the web configuration interface, from disk management to RAID configuration, you can see the corresponding RAID group status is "clean，degraded，recovering".

- **Degraded status:** It only applies to RAID1/RAID5. e.g the working RAID disk group status after hot swap a disk. When RAID is in degraded status, in the web configuration interface, from disk management to RAID configuration, you can see the corresponding RAID group status is "clean，degraded".

Operation example

The RAID5 and RAID1 have the same hot swap operation steps. Now we take RAID5 as an example.

In 3016X internet intelligent storage device, there is a RAID5 disk group consists of four disks (dsk1, disk2, disk3, disk4.). All these four disks are in working status.

Note: 3016X internet intelligent storage device support max 16 SATA disks. But for performance and safety consideration, we recommend RAID 5 consists of four to six disks, RAID1 consists of two to three disks.

Note: Here we just take four disks as an example. When your disk amount is more than 4, the operation is just the same.

1). Disk hot swap example.

In web configuration interface, from disk management to disk information, you can see the information before hot swap. See Figure 8-1.

Here you can see the following information:

- In 3016X internet intelligent storage device, disk group has four disks.
- The four disks are: dsk1, disk2, disk3, disk4.
- These four disks are corresponding to channel 1 to channel 4 respectively.
- All disks are in running status, which means there is no error.

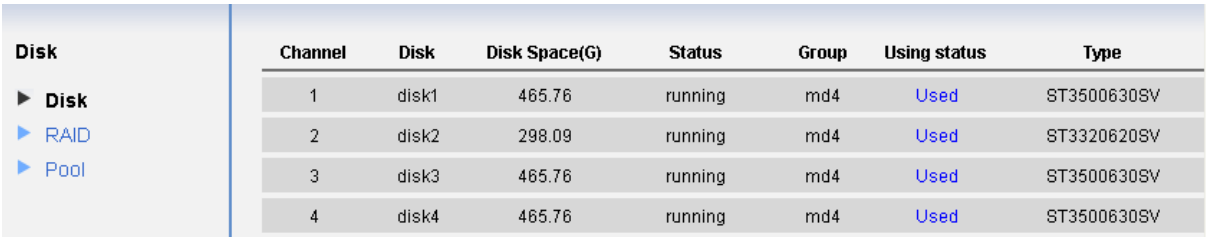


Figure 8-1

2) In web configuration interface, from disk management to RAID configuration, you can see current RAID device status.

Before hot swap, please **make sure** the disk to be hot swapped is in RAID5 (RAID1) and RAID5 (RAID1) is in working status. See Figure 8-2.

Figure 8-2

3). Log out disk to be hot swapped.

In Figure 8-2, click edit button of the corresponding RAID device. You can see an interface is shown as in Figure 8-3.

Here you can see the following information:

- RAID 5 device md0 total space is 698.66, and it consists of four disks.
- The RAID status is in working status. (Clean mode).
- The group consists of four disks: disk1, disk2, disk3, disk4.
- There is a newly added disk list.

Check remove button after disk1 and then click save button. Now you are about to remove disk1.

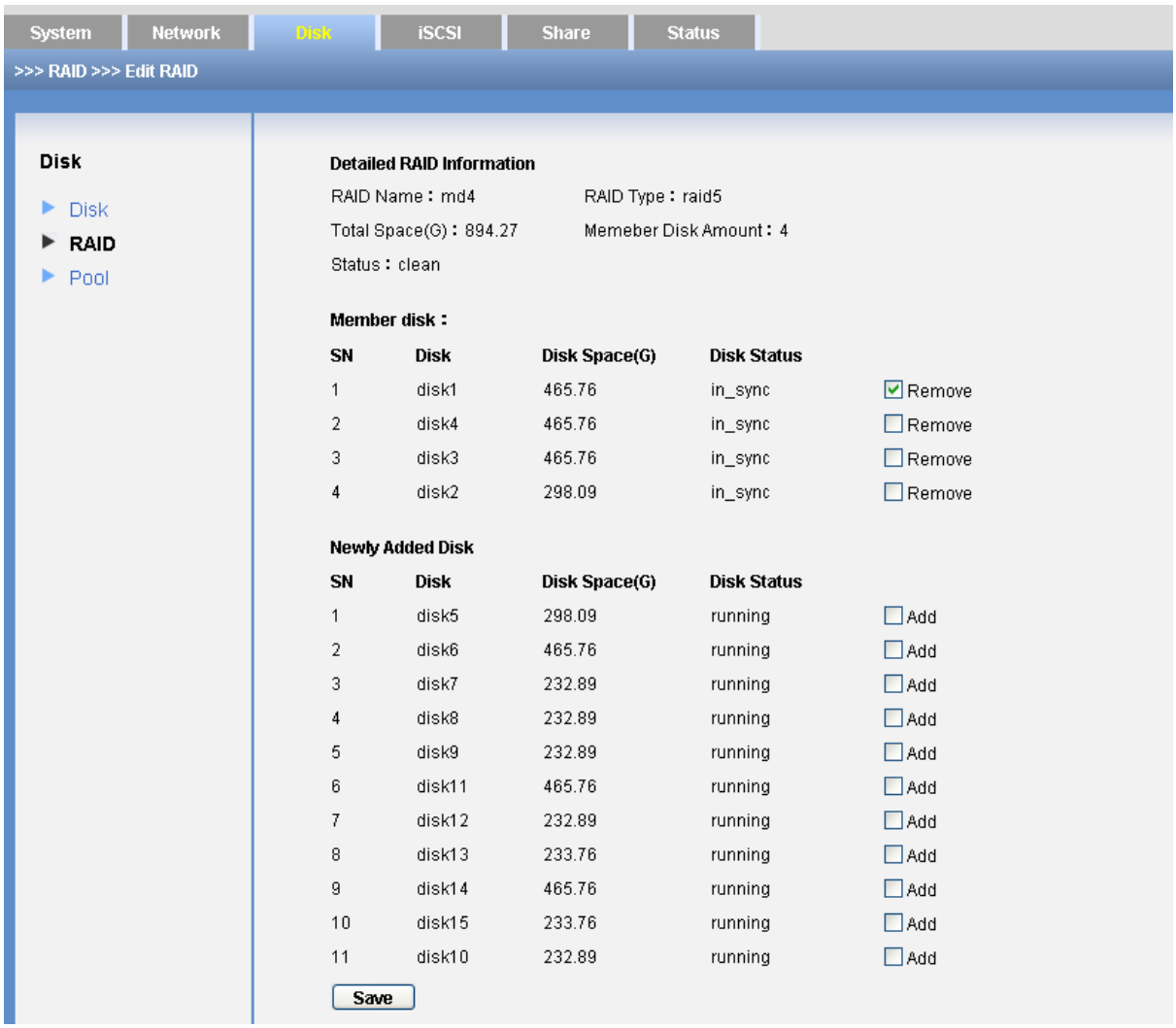


Figure 8-3

4). In web configuration interface, from disk management to disk information, you can see the disk information after hot dismantle: disk1 is in free status. See Figure 8-4.

Now there are two options:

- You can remove the disk1 from the rack.
- You can insert the disk1 into other RAID5/RAID1 in degraded mode. And then create storage pool and share folder to provide share service.

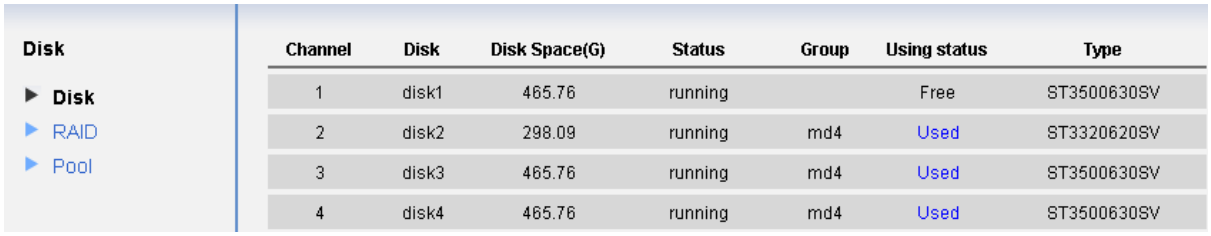

Disk
Disk
RAID
Pool
Channel Disk Disk Space(G) Status Group Using status Type
1 disk1 465.76 running Free ST3500630SV
2 disk2 298.09 running md4 Used ST3320620SV
3 disk3 465.76 running md4 Used ST3500630SV
4 disk4 465.76 running md4 Used ST3500630SV

Figure 8-4

5). In web configuration interface, from disk management to RAID configuration, you can see RAID device status. See Figure 8-5.

After hot swap disks, RAID5 device from working status to clean, degraded status. Current RAID5 disk group can still work properly.

Name	Type	Status	Member Disk	Total Space(G)	Edit	Delete
md4	raid5	clean, degraded	disk2,disk3,disk4	894.27		

Figure 8-5

6). Hot swap disk
In web configuration interface, from disk configuration to disk configuration, you can see the disk status. Disk3 corresponding channel number is channel 3(Please refer to Figure 8-4), now you can remove the corresponding disk from the rack.

7). In web configuration interface, from disk configuration to disk configuration, you can see the RAID status information. See Figure 8-6.

Channel	Disk	Disk Space(G)	Status	Group	Using status	Type
1	disk2	298.09	running	md4	Used	ST3320620SV
2	disk3	465.76	running	md4	Used	ST3500630SV
3	disk4	465.76	running	md4	Used	ST3500630SV

Figure 8-6

8).from disk to RAID, you can view the RAID device status after hot swap. See Figure 8-7. The RAID status after hot swap is the same with that before hot swap.

Name	Type	Status	Member Disk	Total Space(G)	Edit	Delete
md4	raid5	clean, degraded	disk2,disk3,disk4	894.27		

Figure 8-7

Now you can refer to the following part for inserting a new disk.

Hot insert disk example.
Note: The hot insert operation only applies to the disk group that has been hot swapped. It is to guarantee data safety.

1). In web configuration interface, from disk configuration to disk configuration, you can see the following information. See Figure 8-8.

Channel	Disk	Disk Space(G)	Status	Group	Using status	Type
1	disk2	298.09	running	md4	Used	ST3320620SV
2	disk3	465.76	running	md4	Used	ST3500630SV
3	disk4	465.76	running	md4	Used	ST3500630SV

Figure 8-8

2). Insert the disk directly to the idle disk channel of 3016X internet intelligent storage and memorize the disk channel name (such as disk1). In this example, we are going to insert the disk1 that just was removed.

From disk management to disk information, you can review disk information before hot swap. And then check disk information again after hot swap.
Compare the information before and after hot swap. You can see before hot swap, there are three disks: dksk2, disk3, disk4. After hot swap, you can see the there are four disks: disk2, disk3, disk4, disk1. Now you can see the newly inserted disk name is disk1.

3). In web configuration interface, from disk configuration to disk information, you can see the disk information. See Figure 8-9.

Channel	Disk	Disk Space(G)	Status	Group	Using status	Type
1	disk2	298.09	running	md4	Used	ST3320620SV
2	disk3	465.76	running	md4	Used	ST3500630SV
3	disk4	465.76	running	md4	Used	ST3500630SV
4	disk1	465.76	running		Free	ST3500630SV

Figure 8-9

4). In web configuration interface, from disk configuration to RAID configuration, you can see the following RAID device status. See Figure 8-10.
Since current disk group md4 is in degraded status, you can add disk now.

Name	Type	Status	Member Disk	Total Space(G)	Edit	Delete
md4	raid5	clean, degraded	disk2,disk3,disk4	894.27		

Figure 8-10

5). Insert hot swap disk.
In Figure 8-10, click edit button, you can see an interface is shown as in Figure 8-11.
Now please check the add button and then click save
Please note, hot swap operation only applies to degrade RAID1/RAID5
RAID begins synchronization again after hot swap.

Detailed RAID Information

RAID Name：md4 RAID Type：raid5

Total Space(G)：894.27 Memeber Disk Amount：4

Status：clean, degraded

Member disk：

SN	Disk	Disk Space(G)	Disk Status	
1	disk4	465.76	in_sync	☐ Remove
2	disk3	465.76	in_sync	☐ Remove
3	disk2	298.09	in_sync	☐ Remove

Newly Added Disk

SN	Disk	Disk Space(G)	Disk Status	
1	disk1	465.76	running	☑ Add
2	disk5	298.09	running	☐ Add
3	disk6	465.76	running	☐ Add
4	disk7	232.89	running	☐ Add
5	disk8	232.89	running	☐ Add
6	disk9	232.89	running	☐ Add
7	disk11	465.76	running	☐ Add
8	disk12	232.89	running	☐ Add
9	disk13	233.76	running	☐ Add
10	disk14	465.76	running	☐ Add
11	disk15	233.76	running	☐ Add
12	disk10	232.89	running	☐ Add

Save

Figure 8-11

Note:

Since newly added disk information take "disk volume" as a symbol (such as disk1), so in the step (2) please memorize hot swap disk name.

6). In web configuration interface, from disk configuration to disk configuration, you can see the disk information. See Figure 8-12.

Channel	Disk	Disk Space(G)	Status	Group	Using status	Type
1	disk1	465.76	running	md4	Used	ST3500630SV
2	disk2	298.09	running	md4	Used	ST3320620SV
3	disk3	465.76	running	md4	Used	ST3500630SV
4	disk4	465.76	running	md4	Used	ST3500630SV

Figure 8-12

7). In web configuration interface, from disk configuration to RAID configuration, you can see the following RAID device status. See Figure 8-13.

Name	Type	Status	Member Disk	Total Space(G)	Edit	Delete
md4	raid5	clean, degraded, recovering (0.0%, 2.96M/s)	disk2,disk3,disk4,disk1	894.27		

Figure 8-13

Note

After hot swap, RAID5 device status is from "degrading" to "recovering" and begins synchronization.

During the hot swap process, system data will not be damaged.

9 Appendix C ---SAMBA Share Implementation in Windows

SAMBA and central management implementation

3016X internet intelligent storage device provides SAMBA share just like a network disk. When it works with central management software, you need to map it to local disk partition. Please follow the steps below.

1).Access the SAMBA share of the 3016X internet intelligent storage device.

Open IE browser and input 3016X internet intelligent storage device IP address in the address column as \\10.6.5.88. System will pops up a dialogue box for you to input user name and password. Now you can see the following interface. See Figure 9-1. There is a SAMBA share ftp.

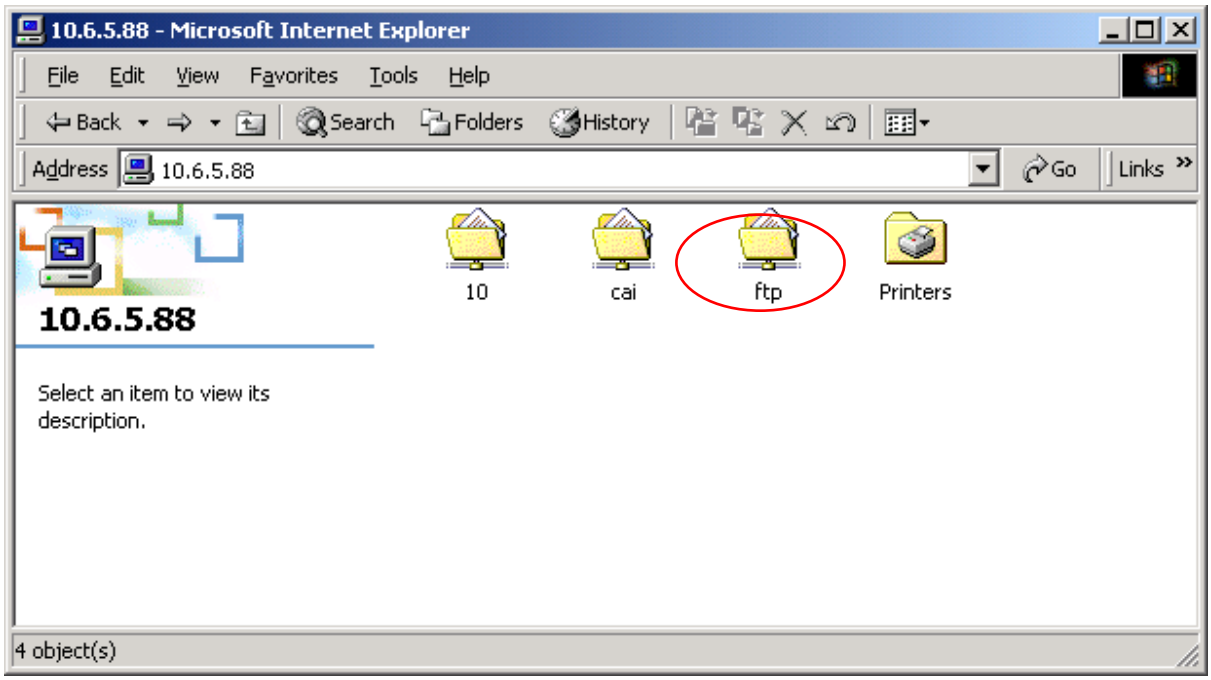


Figure 9-1

2).set network disk

Right click ftp and then select map network drive. See Figure 9-2.

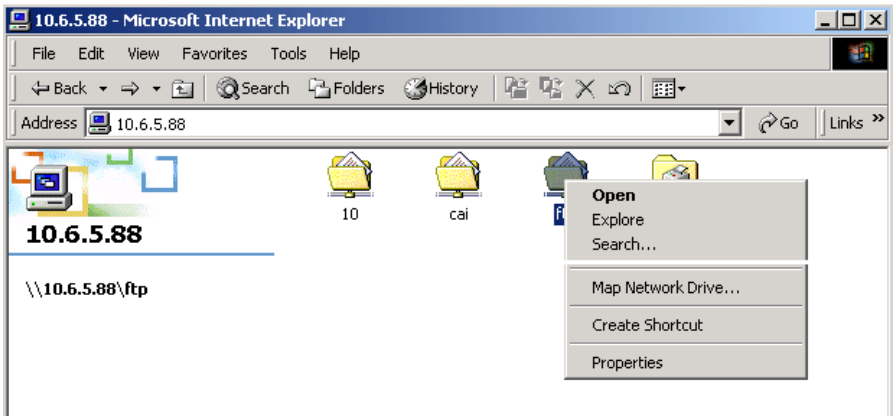


Figure 9-2

System pops up the following dialogue box. See Figure 9-3. You can select drive symbol (A:--Z:) and then click finish button.

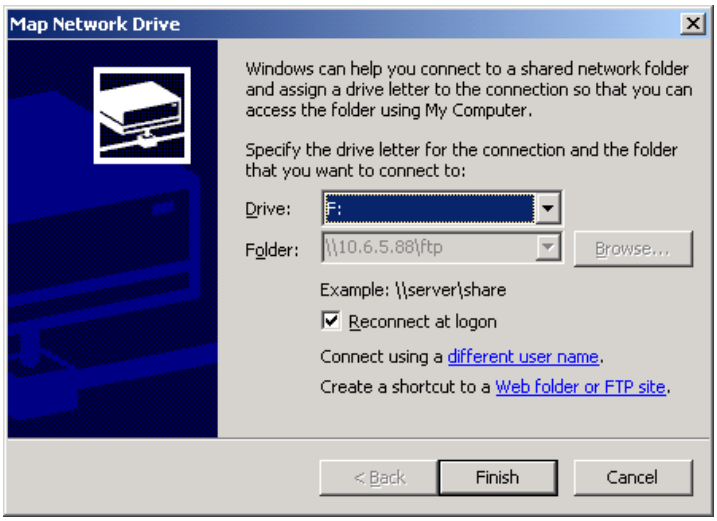

Map Network Drive
Windows can help you connect to a shared network folder and assign a drive letter to the connection so that you can access the folder using My Computer.
Specify the drive letter for the connection and the folder that you want to connect to:
Drive:
F:
Folder:
\\10.6.5.88\ftp
Browse...
Example: \\server\share
Reconnect at logon
Connect using a different user name.
Create a shortcut to a Web folder or FTP site.
< Back
Finish
Cancel

Figure 9-3

3).View local PC disk.

Open my computer, you can see network driver is not empty, which means the map network drive is successful. See Figure 9-4.

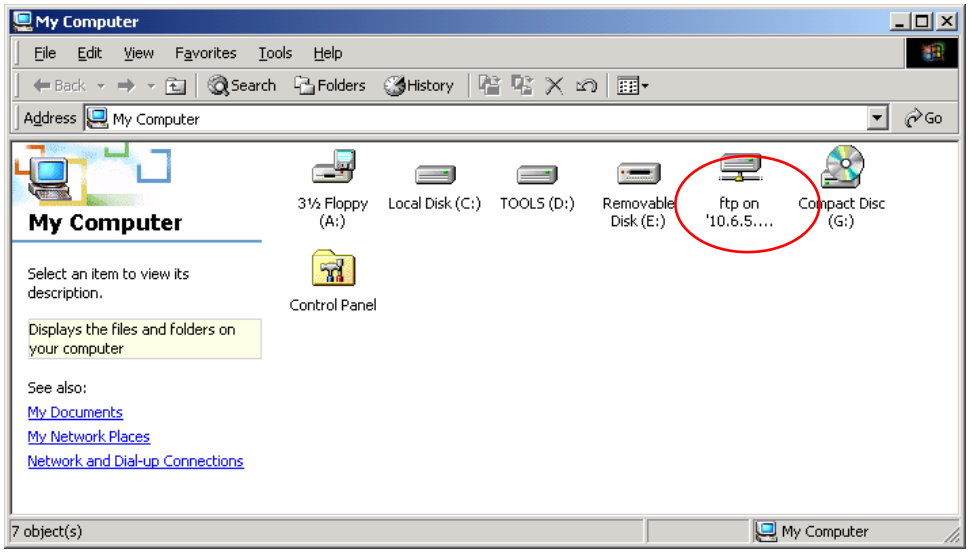


Figure 9-4

Note: current share folder just like local PC F disk. The central management software can save storage path as： "F:/" .

10 Appendix D---iSCSI Application in MS Windows

iSCSI connection in windows system

3016X internet intelligent storage device can provide iSCSI share. But you need to install corresponding software to support such a kind of function. Here we introduce iSCSI connection in MS Windows: the iSCSI Initiator installation and use so that you can use iSCSI share of the 3016X internet intelligent storage device.

There are three basic steps:

Install MS iSCSI Initiator software

Connect to iSCSi share of 3016X internet intelligent storage device via iSCSI Initiator.

Map iSCSI storage as local disk. Partition and format the disk

iSCSI Initiator software

Please go to Microsoft official website download iSCSI Initiator software. Please follow the installation shied to install the software. You can see a MS iSCSI Initiator icon on the desk top.

Connect to iSCSi share of 3016X internet intelligent storage device via iSCSI Initiator.

1).Double click MS iSCSI Initiator icon on the desktop. You can see an interface is shown as below. See Figure 10-1.

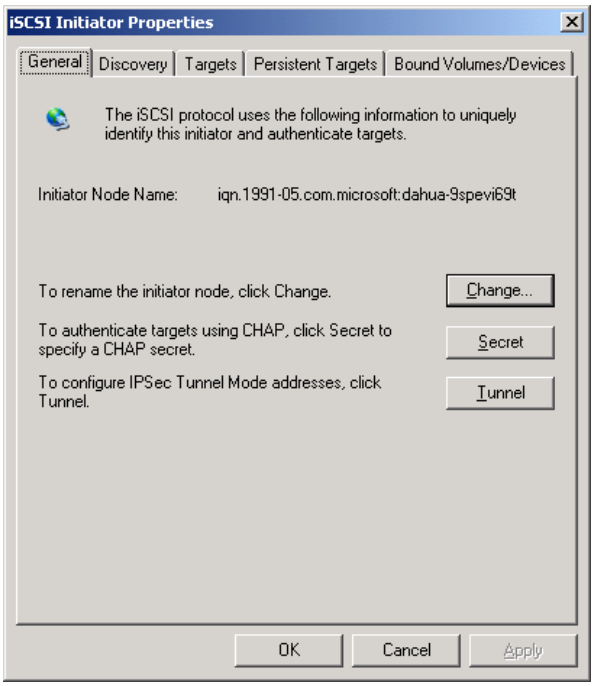


Figure 10-1

2) Click Discovery, you can see an interface is shown as in Figure 10-2.

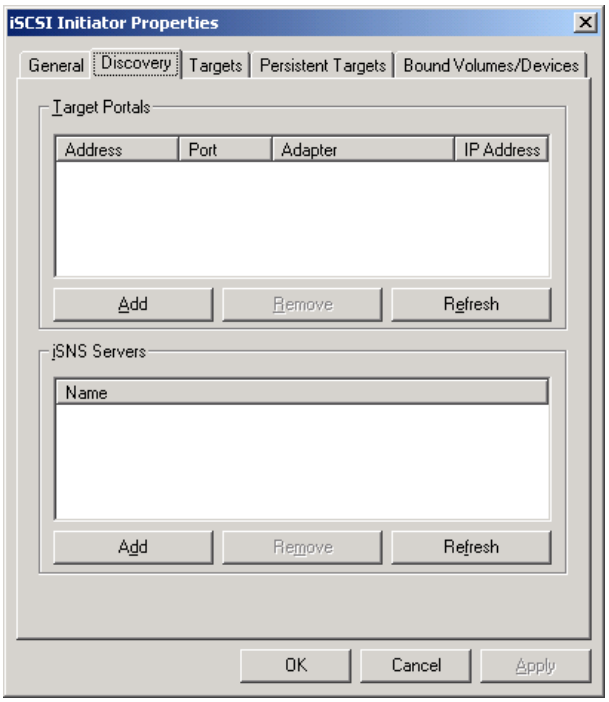


Figure 10-2

3). Click add button, input 3016 internet intelligent storage device IP address and then click Ok button. See Figure 10-3.

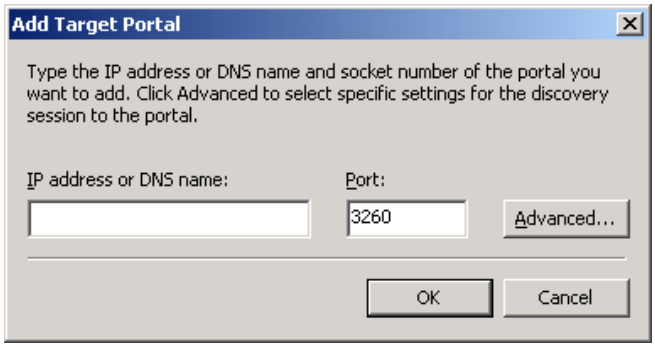

Add Target Portal
Type the IP address or DNS name and socket number of the portal you want to add. Click Advanced to select specific settings for the discovery session to the portal.
IP address or DNS name:
Port:
3260
Advanced...
OK
Cancel

Figure 10-3

4) Click target button to view 3016 internet intelligent storage device share situation. See Figure 10-4. Here you can see there are two share devices and their statuses are both inactive.

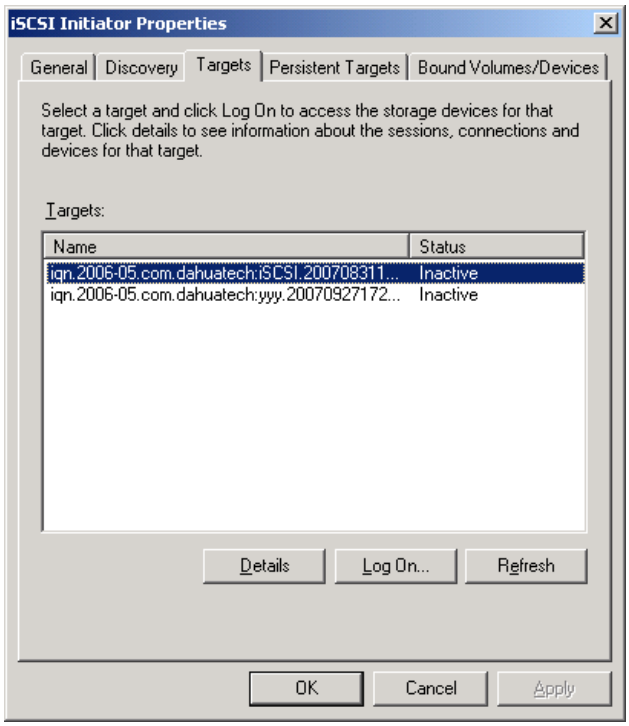


Figure 10-4

5). In Figure 10-4, select one iSCSI share and then click "Log on" button. See Figure 10-5.

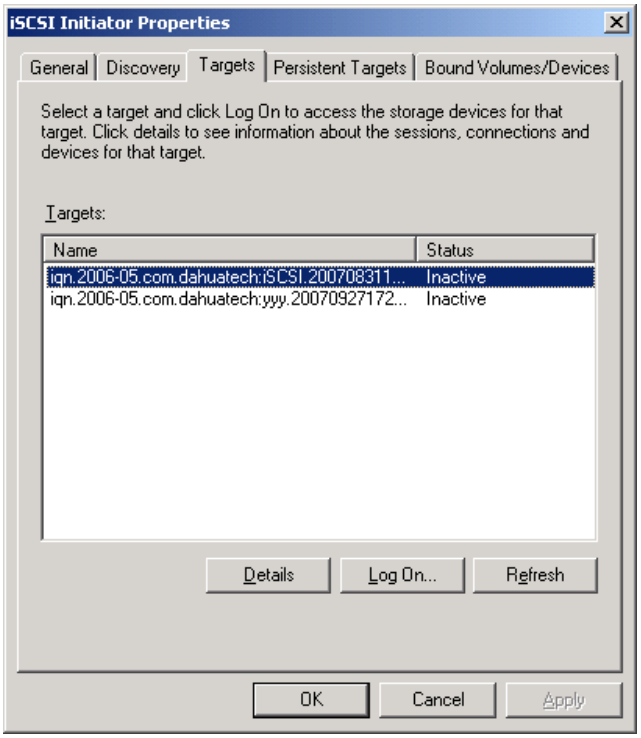


Figure 10-5

Please enable auto connect function. See Figure 10-6.

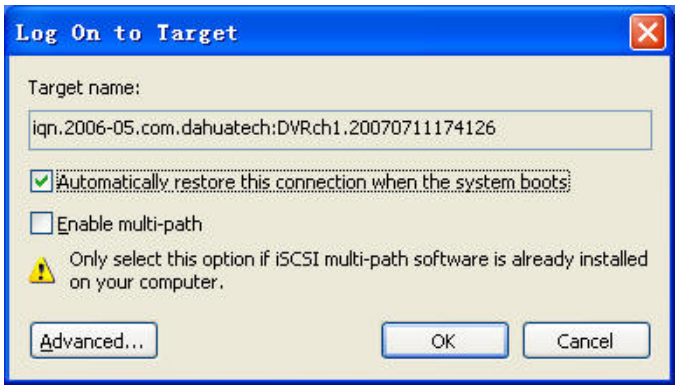


Figure 10-6

6).Now there is two situations:

- When ISCSI share device has no valid user

Click OK button, now you can see the selected iSCSI device status becomes active.

- When iSCSI has a valid user.

Click advance button, system pops up a dialogue box. Here you check "CHAP logon information" and then input user name and password. Click OK, you can access iSCSI share now. See Figure 10-7.

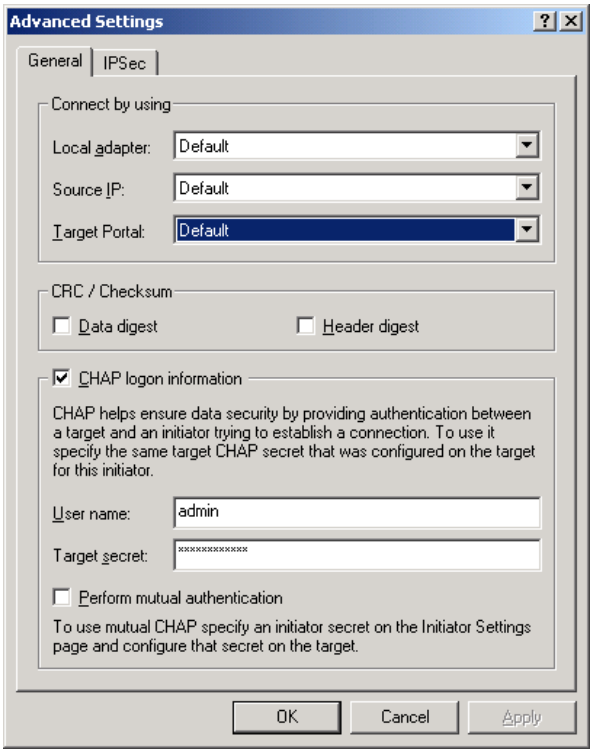

Advanced Settings
General
IPSec
Connect by using
Local adapter:
Default
Source IP:
Default
Target Portal:
Default
CRC / Checksum
Data digest
Header digest
CHAP logon information
CHAP helps ensure data security by providing authentication between a target and an initiator trying to establish a connection. To use it specify the same target CHAP secret that was configured on the target for this initiator.
User name:
admin
Target secret:
Perform mutual authentication
To use mutual CHAP specify an initiator secret on the Initiator Settings page and configure that secret on the target.
OK
Cancel
Apply

Figure 10-7

Map iSCSI of 3016X internet intelligent storage device as local disk

1).Right-click my computer icon and then click manage item. Select disk management on the left side. You can see an interface is shown as in Figure 10-8.

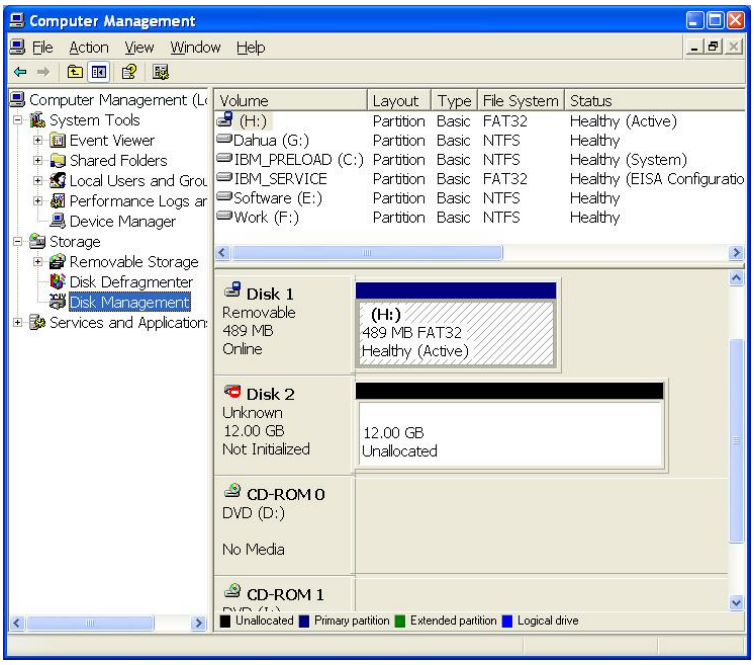


Figure 10-8

2).In Figure 10-8, click disk 2 and then click initialize disk. See Figure 10-9.

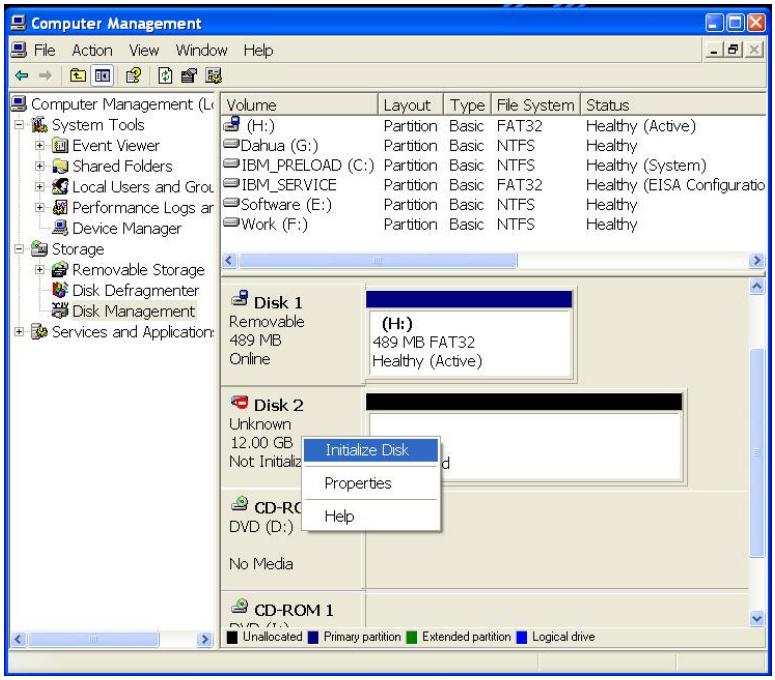


Figure 10-9

3). Right-click "12.00GB unallocated" and then select new partition. See Figure 10-10.

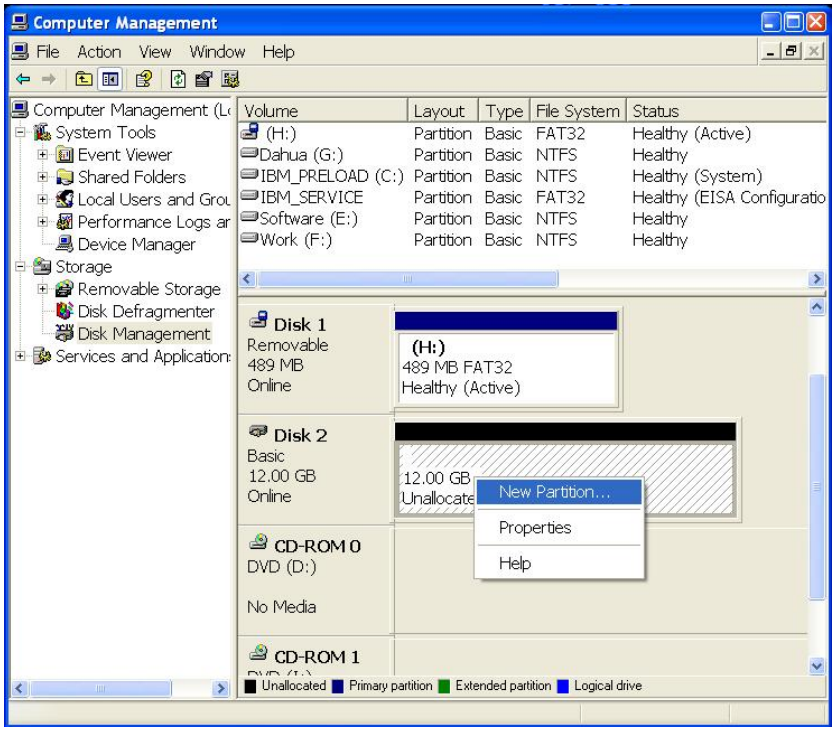


Figure 10-10

4). Please follow the instructions to set and format the disk.

5). After formatting, the iSCSI share will be displayed as newly added volume and has its own driver number. See Figure 10-11. Now you can use iSCSI device.

Please note Disk2 is the newly added iSCSI device.

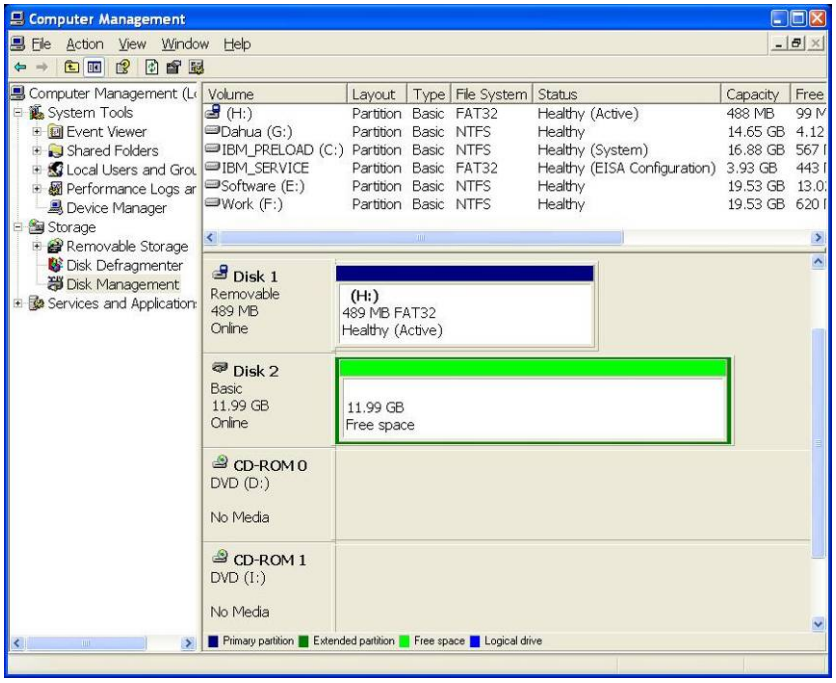


Figure 10-11

11 Appendix E—COM COMMAND

ESS3016X internet intelligent storage device provides serial port Debug command for administrator. It is to help you deal with some situation such as forgetting admin password or IP address abnormal phenomena.

You can follow the steps listed below.

1).Connect ESS3016X device to serial port of PC or industrial computer.

2).Configure serial port terminal tools of PC (industrial computer).

3).Log in as "dh_admin" and then go to the debug command line interface.

4).Debug command operation

Here we introduce the step two to step four.

- **Log in as "dh_admin" and then go to the debug command line interface**

After you finish setting in Figure 11-1, please click Enter button. Now system pops up a dialogue box for you to input user name (dh_admin) and password (debug). You can see an interface is shown as in Figure 11-1. It is a debug command line interface.

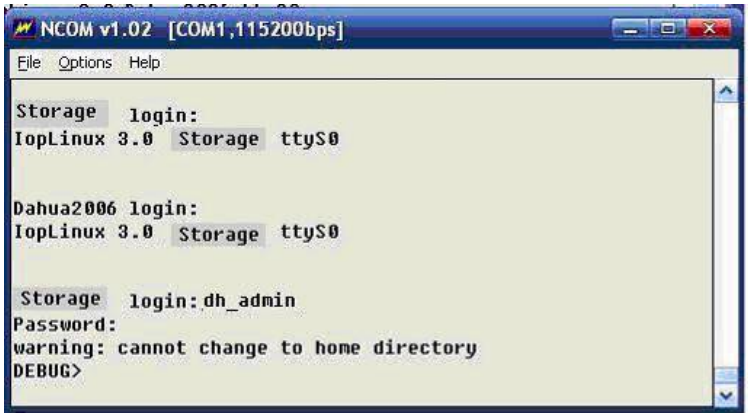


Figure 11-1

- **Debug command operation**

Input command "help" after **debug>**, you can see an interface is shown as in Figure 11-2.

In Figure 11-2, you can see Debug command line provides five command operations:

Input "help" after "DEBUG>", you can see Debug command list.

Debug command lien provide five command operations:

- ✧ **help:** Display corresponding information about Debug command. Command format: **help.**
- ✧ **netshow**: Here you can view current IP address, command format: **netshow**.
- ✧ **netset**: Reset system IP address. Command format: **netset, IP address, subnet mask.**
- ✧ **adminpwdset**: Restore factory default password (888888888888). Command format: **adminpwdset**.
- ✧ **reboot**: Reboot system. Command format: **reboot**.

Please note, reset system IP address command "netset" consists of two command parameter: IP address and subnet mask. There is no gateway parameter. You need to go to web interface to set system default gateway.

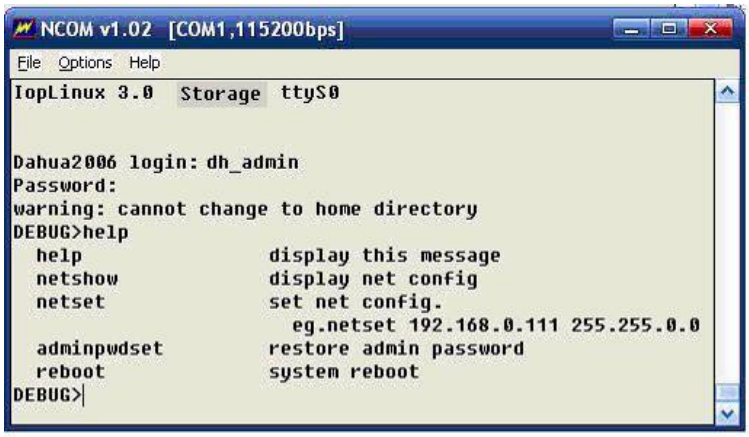


Figure 11-2

Here we take netshowas an example.

In debug command line, input netshow and then click Enter button.

Now you can see an interface is shown as in Figure 11-3.

You can see the information after **bond0.** In Figure 11-3, you can see system IP address is 10.6.5.81.

Note:

Netset is to reset system IP address and it has two command parameters: parameter 1 is to set the IP address and parameter 2 is subnet mask. Since there is no default gateway, you need to log in web and then set system default gateway after setting IP address.

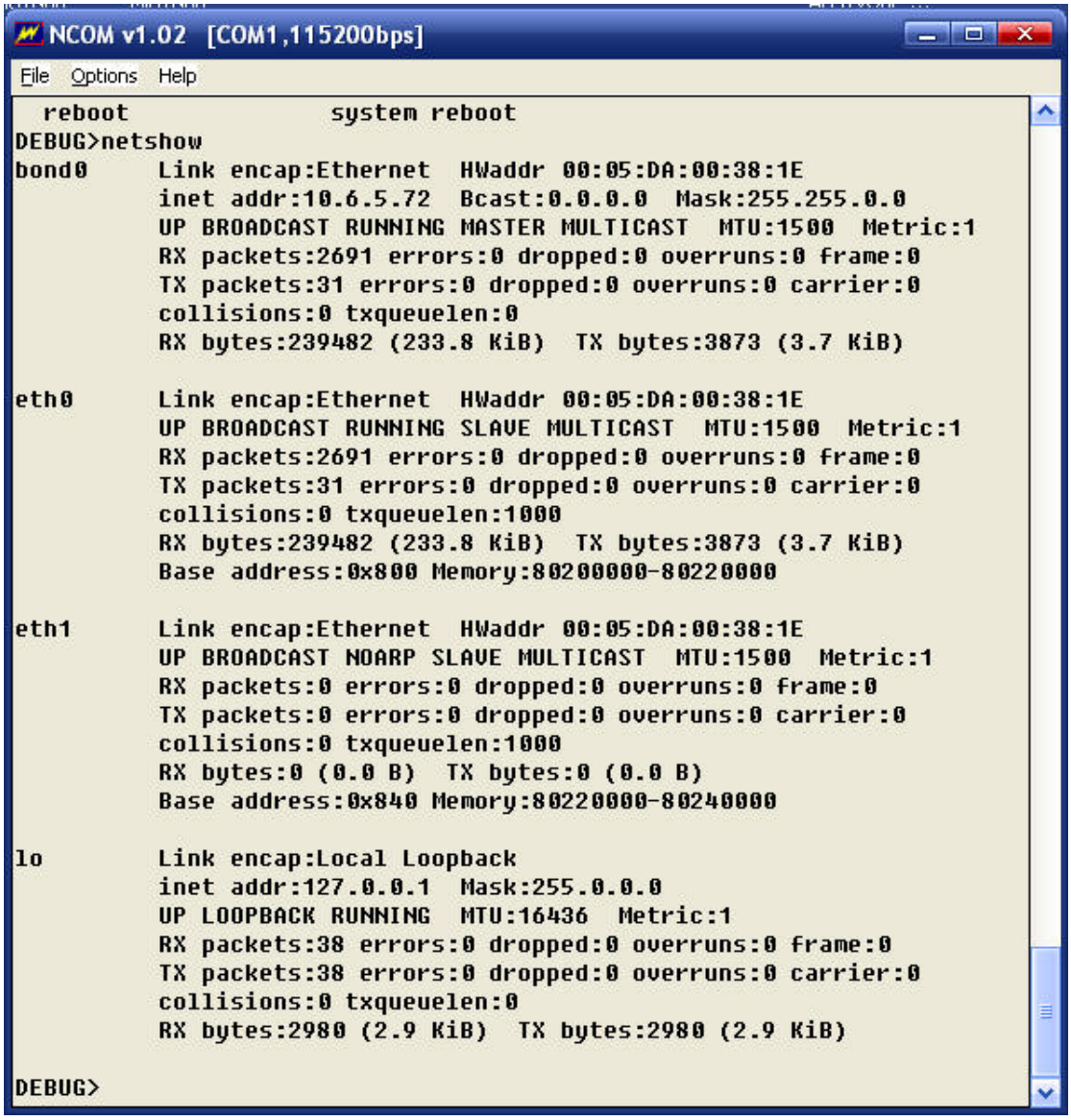

NCOM v1.02 [COM1,115200bps]
File Options Help
reboot system reboot
DEBUG>netshow
bond0 Link encap:Ethernet HWaddr 00:05:DA:00:38:1E
inet addr:10.6.5.72 Bcast:0.0.0.0 Mask:255.255.0.0
UP BROADCAST RUNNING MASTER MULTICAST MTU:1500 Metric:1
RX packets:2691 errors:0 dropped:0 overruns:0 frame:0
TX packets:31 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:0
RX bytes:239482 (233.8 KiB) TX bytes:3873 (3.7 KiB)
eth0 Link encap:Ethernet HWaddr 00:05:DA:00:38:1E
UP BROADCAST RUNNING SLAVE MULTICAST MTU:1500 Metric:1
RX packets:2691 errors:0 dropped:0 overruns:0 frame:0
TX packets:31 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:239482 (233.8 KiB) TX bytes:3873 (3.7 KiB)
Base address:0x800 Memory:80200000-80220000
eth1 Link encap:Ethernet HWaddr 00:05:DA:00:38:1E
UP BROADCAST NOARP SLAVE MULTICAST MTU:1500 Metric:1
RX packets:0 errors:0 dropped:0 overruns:0 frame:0
TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:0 (0.0 B) TX bytes:0 (0.0 B)
Base address:0x840 Memory:80220000-80240000
lo Link encap:Local Loopback
inet addr:127.0.0.1 Mask:255.0.0.0
UP LOOPBACK RUNNING MTU:16436 Metric:1
RX packets:38 errors:0 dropped:0 overruns:0 frame:0
TX packets:38 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:0
RX bytes:2980 (2.9 KiB) TX bytes:2980 (2.9 KiB)
DEBUG>

Figure 11-3

Slight difference may be found in user interface.
All the designs and software here are subject to change without prior written notice.

Please visit our website for more information.